TRET-O-LITE

The Tretolite processes are recognized, wherever oil is produced, as the universal method of treating crude oil emulsions, cut oil, roily oil, and B. S. to pipe line requirements.

COMPANY

Manufacturing Chemists

ST. LOUIS · DALLAS · LOS ANGELES · REPRESENTATIVES IN ALL PRINCIPAL FIELDS

American Cable Division, Dept. OW-5
American Chain & Cable Company, Inc., Wilkes-Barre, Pa.
Send me____copies of your booklet "Safety With Wire Ropes."

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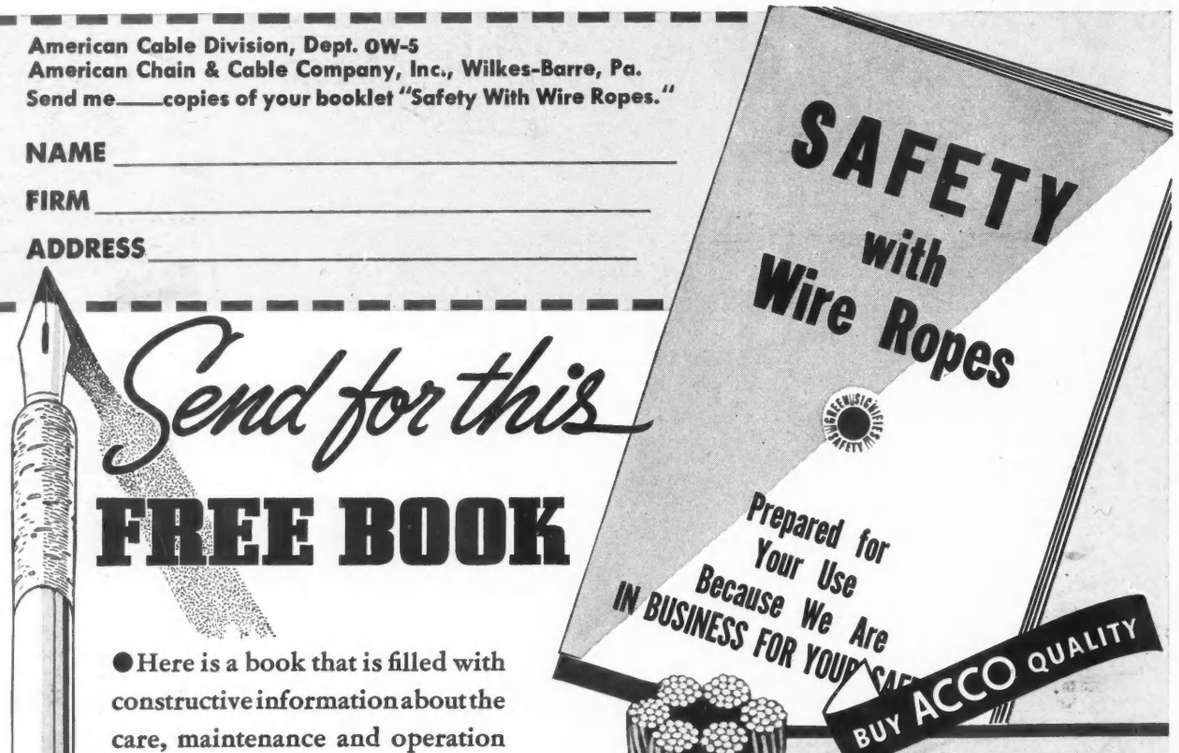

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FREE BOOK

● Here is a book that is filled with constructive information about the care, maintenance and operation of wire rope.

It explains *why* TRU-LAY Preformed Rotary lines are safe lines. But far more than being an advertisement this book gives constructive information on rope strengths and working loads, why it resists whipping even at high speeds under light load, how to avoid crushing, destructive kinks, when to discard ropes—and much other useful information every driller will want to know.

Return the coupon today for your free copy of this book—prepared by the people who pioneered in the development and perfection of preformed rope.

AMERICAN CABLE DIVISION
WILKES-BARRE, PENNSYLVANIA
AMERICAN CHAIN & CABLE COMPANY, Inc.
Branches or Distributors in All Oil Field Centers
In Business for Your Safety

A FEW OF THE 137 AMERICAN CHAIN & CABLE INDUSTRIAL PRODUCTS

AMERICAN CHAIN DIVISION
(DOMINION CHAIN COMPANY, Ltd., in Canada)
Weed Tire Chains • Welded and Weldless Chain • Malleable Castings • Railroad Specialties

AMERICAN CABLE DIVISION
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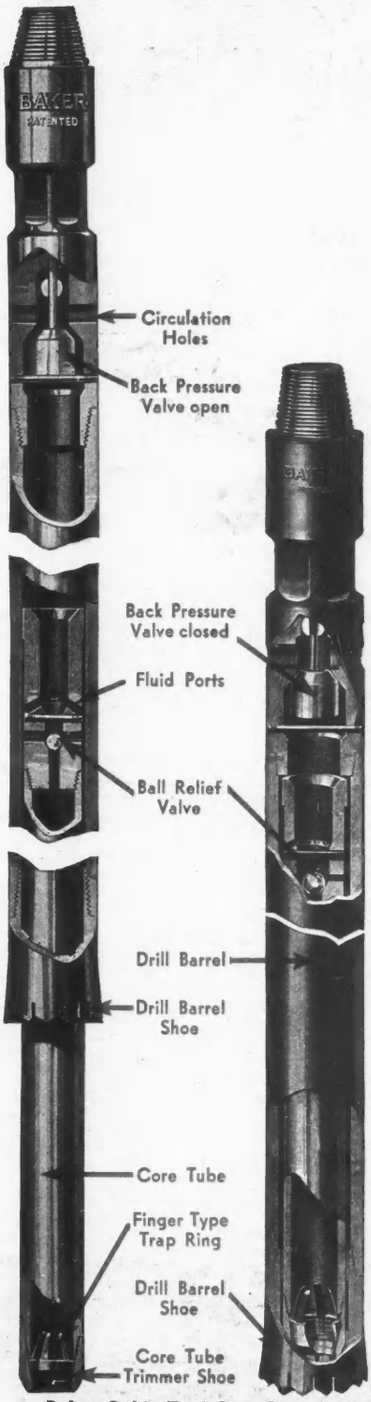
TRU-LAY *Preformed* ROTARY LINES

ALL AMERICAN CABLE DIVISION ROPES MADE OF IMPROVED PLOW STEEL ARE IDENTIFIED BY THE EMERALD STRAND

The OIL WEEKLY. Issued weekly by the Gulf Publishing Co., 3301 Buffalo Drive, Houston, Texas. Subscription price $2.00 per year; 15 cents per copy. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879.

HOP SING *Says:*

"ONE ILLUSTRIOUS BAKER CORE WORTH MANY THOUSAND NOBLE GUESSES"



Baker Cable Tool Core Barrel
Left, at up-stroke; right at down-stroke.

...and HOP SING IS RIGHT!

Guessing from mere bailer samples is an outmoded practice. There is too much at stake to depend upon anything less than complete, uncontaminated cores . . . cores that tell the "hole" story . . . the kind of cores that are consistently recovered with the BAKER CABLE TOOL CORE BARREL.

SIMPLE IN DESIGN AND CONSTRUCTION

The Baker Cable Tool Core Barrel consists of two principal parts . . . an outer drilling barrel and an inner, core-retaining tube. In action, the inner barrel rests on bottom while the outer, or drilling barrel, is operated with a slightly slower motion and a shorter stroke than is used for drilling. The core retaining tube follows down over the core which is being cut by the drilling barrel, and an accurate cross-section of all formations enters the barrel and is positively retained and recovered.

An important feature is the hydraulic action produced by the opening of the valve in the outer barrel assembly on the up-stroke, and the closing of this valve along with the ball valve in the inner barrel on the down-stroke. This action causes fluid to be discharged between the outer and inner barrel, keeping the teeth of the drill shoes lubricated and free from cuttings.

EASY TO OPERATE

Any experienced cable tool driller can take good cores right from the start with the Baker Core Barrel. There are no complicated adjustments, and by drilling with a slightly slower motion and a shorter stroke than when using a bit, good cores are assured.

There is only ONE BAKER Cable Tool Core Barrel and it will pay you to investigate its proven efficiency, economy and dependability. Full details are given on pages 225 to 230 of the BAKER Catalog or 1937 COMPOSITE CATALOG.

8 PROFITABLE USES FOR THE BAKER Cable Tool CORE BARREL

1. Determining whether sands are oil-bearing, water-bearing, or dry.
2. Picking up low-pressure sands which may be made productive by shooting.
3. Selecting proper casing locations.
4. Determining exact position for perfect water shut-offs.
5. Testing as to porosity, saturation and permeability.
6. Determining approximate inclination of formations.
7. Locating breaks in sands separating oil-bearing from water-bearing horizons.
8. Securing cores for exact lithographic and paleographic determination.

BAKER OIL TOOLS, INC.

Telephone JEfferson 8211 – HUNTINGTON PARK, CALIFORNIA – 2959 E. Slauson Ave.
Telephone WAyside 2108 – HOUSTON PLANT AND OFFICE – 6023 Navigation Blvd.

MID-CONTINENT OFFICE AND WAREHOUSE:
Telephone 2-8083 – Tulsa, Oklahoma – 312 East Fourth Street

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Tel. Digby 4-5515

ROCKY MOUNTAIN HEADQUARTERS
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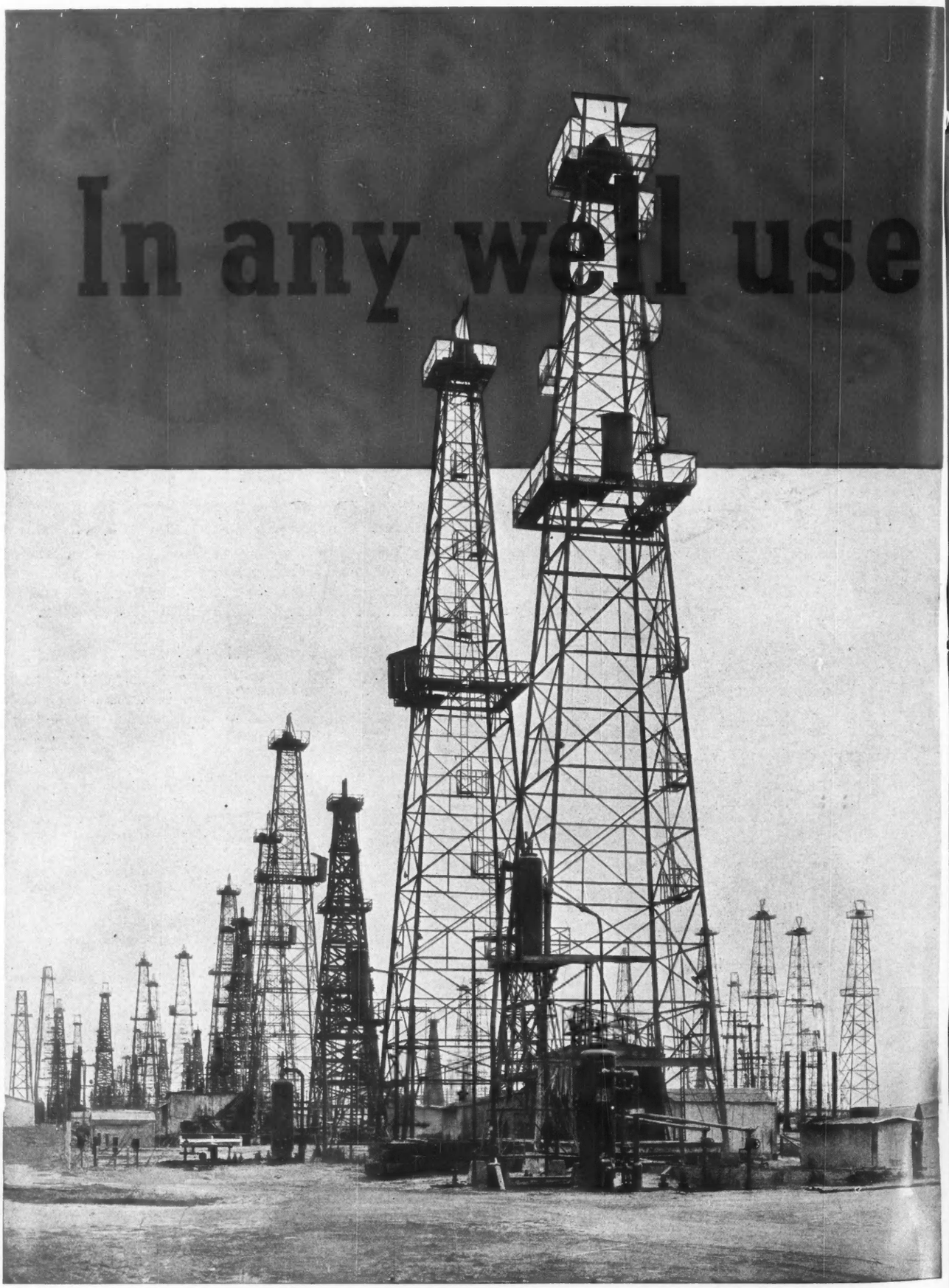
BAKER CABLE TOOL CORE BARREL


In any well use

REPUBLIC CASING

REPUBLIC STEEL

Regardless of field or depth, you can run Republic Electric Weld Casing with full assurance of safety. Its perfect roundness, uniform wall thickness and high tensile strength, yield point and ductility—obtainable by Republic's patented process of manufacture—make it the ideal casing for deep strings.

Casing, tubing, drive pipe, line pipe or pipe for maintenance use—you obtain the same uniform high quality in all tubular products bearing the Republic name. Write for further information.

Republic Steel Corporation

GENERAL OFFICES . . . CLEVELAND, OHIO

you can depend on

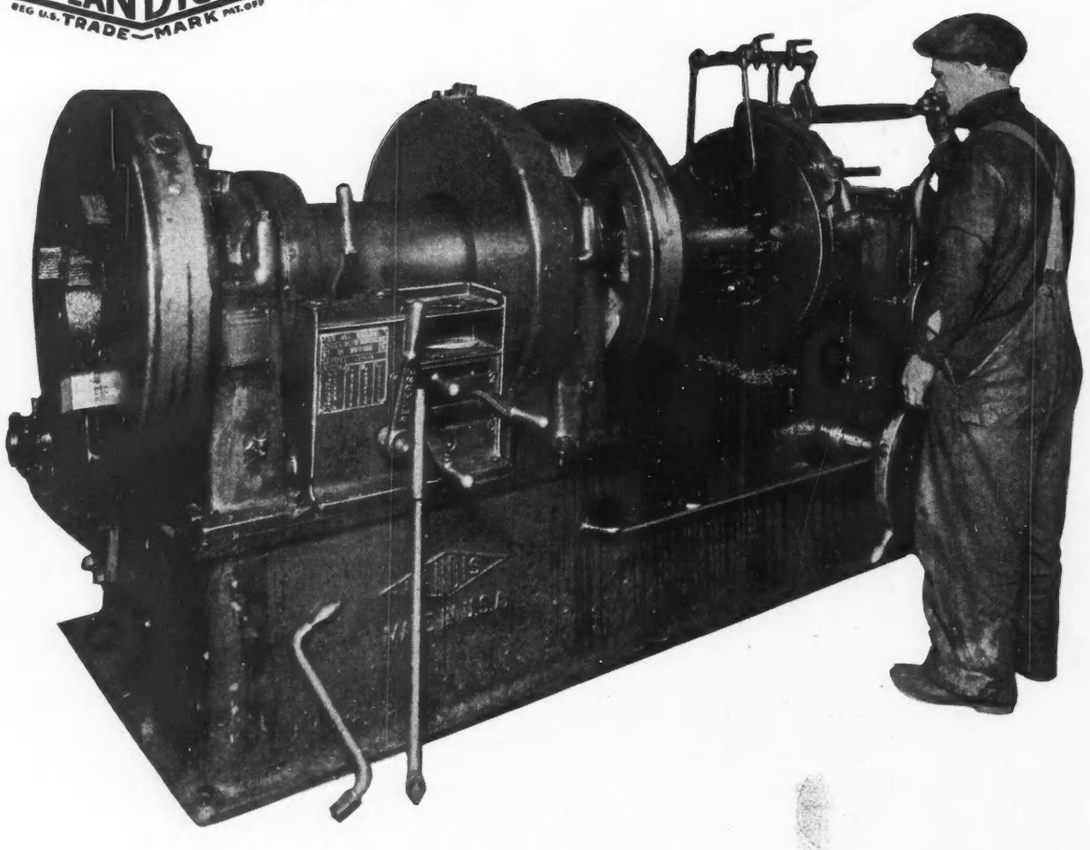
LANDIS cut threads

Powerful and fast, the LANDIS gives a maximum of production, of clean cut, accurate taper, perfect form PIPE THREADS.

The LANDIS tangential chaser with its wide range insures rapid set-up changes, low threading cost.

For the guaranteed maintenance you require

IT'S IN A CLASS BY ITSELF



LANDIS MACHINE COMPANY, Inc.

Waynesboro, Penna.

Any way you look at it
REPEAT ORDERS TELL THE STORY
The Cummins Diesel has established a record for Repeat Orders to oil field customers. Its exclusive method of fuel distribution and injection is responsible for its record in oil field performance . . . its cold starting, flexibility, smooth running, fuel economy, low maintenance and proven dependability . . . Cummins Engine Company, 1020 Wilson Street, Columbus, Indiana.
CUMMINS Dependable DIESEL
MID-CONTINENT SUPPLY COMPANY
Exclusive Distributors Mid-Continent territory. Home Office, Ft. Worth, Texas
Read the record

U.S. SCORES A Double SUCCESS

NEW PLAN FOR ORDERING ROTARY DRILLING PACKINGS ACCLAIMED BY OIL INDUSTRY!

U.S. PACKING
SLUSH PUMP GLAND RINGS
FLUID END
TO FIT SIZE OF PUMPS LISTED BELOW
ACME 14 x 7⅛ x 16"
ACME 14 x 7⅛ x 14"
ACME 15 x 7⅛ x 18"
GARDNER 14 x 7⅛ x 14"
GARDNER 14 x 7⅛ x 16"
GARDNER FXQ x 7¾ x 16"
GARDNER 14 x 7¾ x 18"
GARDNER PWR. x 7½ x 14"
GARDNER FXQ x 7 x 14"
GARDNER 12 x 6¾ x 16"
JOHNSON Type J 12 x 6¾ x 14"
LUCEY H—10,000 12½ x 6¾ x 14"
LUCEY I—1,000
STYLE 4480
SIZE J
WEIGHT 5 lbs.
QUANT.
United States Rubber Products, Inc.
MADE IN U.S.A.

This new, easy way to order field-tested U. S. Packings for Rotary Slush Pumps and Swivels has taken the oil industry by storm! When you need rotary packing, send a man to your supply store . . . have him tell the clerk what type of packing you need, its location, and the name and size of your swivel or pump. Pronto! . . . the clerk hands your man a set of correct U. S. Packing in a box like the one shown at left. He speeds back to the rig with the right packing for the right place. No need to worry about packing sizes or anything else. Time is saved, and the possibility of getting the wrong packing is eliminated. It's as easy as that! Use the rotary packings most popular in the oil fields today. Order U. S. Rotary Packings from your oil well supply store. If they cannot supply you, write U. S. Rubber, 1790 Broadway, New York.

←**FOR YOUR CONVENIENCE the label quickly and clearly indicates the name, size, and service of the correct U. S. Packing for your particular job.**

For toughest rotary drilling, specify U. S. "Matchless" (9500 lbs. burst) or U. S. "Peerless "(7000 lbs. burst).—Both have specially reinforced ends 36" long...both are flexible and built to stand the hardest oil field service.

ES WITH ROTARY PACKINGS AND HOSE!

Because U. S. Rotary Packings Are So Easy to Obtain and Like Rotary Hose Give Service Beyond Price and Specifications

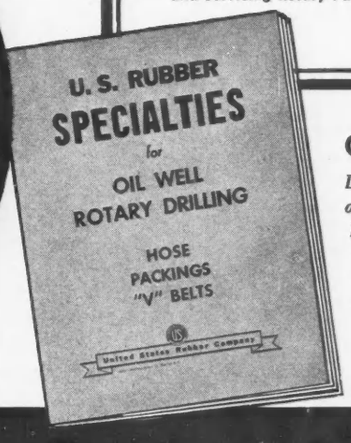
Out of the 75 years of close contact between U. S. Rubber representatives and the oil industry have come many notable product achievements! Among the U. S. Rubber successes of today are: Flexible, reinforced, burst-resistant U. S. Matchless and Peerless Rotary Hose, Matchless Steam Hose, and Giant Rotary Mud Suction Hose.

Now U. S. Rubber scores another "first," and another overwhelming success with its new simplified plan for *ordering* Rotary Packings. Born of common sense and the recognition of oil industry needs that is typical of U. S. Rubber, this plan makes easily and unmistakably accessible the right U. S. Packing for every oil well rotary packing job.

Backed by matchless engineering skill and the kind of craftsmanship that comes only with generations of knowing how, it is this kind of "thinking through"—from rubber in the raw to merchandising at the point of sale—that enables U. S. Rubber Oil Well Rotary Products to give *Service Beyond Price and Specifications.*

SUPPLY STORE MANAGERS . . . GET NEXT TO THIS NEW PLAN!

You're missing something big in the way of business if you aren't selling U. S. Rotary Hose, and if you haven't put the new U. S. Packing Plan into operation in your store! Supply stores are making repeat profits on this plan now . . . it makes ordering easy—no mix-ups on packing sizes . . . because every U. S. box is labelled with the names, sizes, and service for which a particular set is adapted. *Drillers* go for the U. S. package (see illustration) because there's no chance of getting the wrong packing. You keep inventories low, and cut down time spent in waiting on customers! Service your customers and increase your business by ordering your supply of U. S. Rotary Packings now! Write our nearest branch, or U. S. Rubber, 1790 Broadway, New York City, for special information on this new idea for selling and servicing Rotary Packings.



GET THIS FREE BOOK!

Drillers! Send for this free catalog of U. S. Specialized Mechanical Rubber Goods for oil well rotary drilling! Fully describes U. S. Rotary, and other Hose, V-Belts, and the new time-saving plan for ordering Rotary Packings.

United States Rubber Company

United States Rubber Products, Inc., New York, N. Y.

you can depend on

LANDIS cut threads

Powerful and fast, the LANDIS gives a maximum of production, of clean cut, accurate taper, perfect form PIPE THREADS.

The LANDIS tangential chaser with its wide range insures rapid set-up changes, low threading cost.

For the guaranteed maintenance you require

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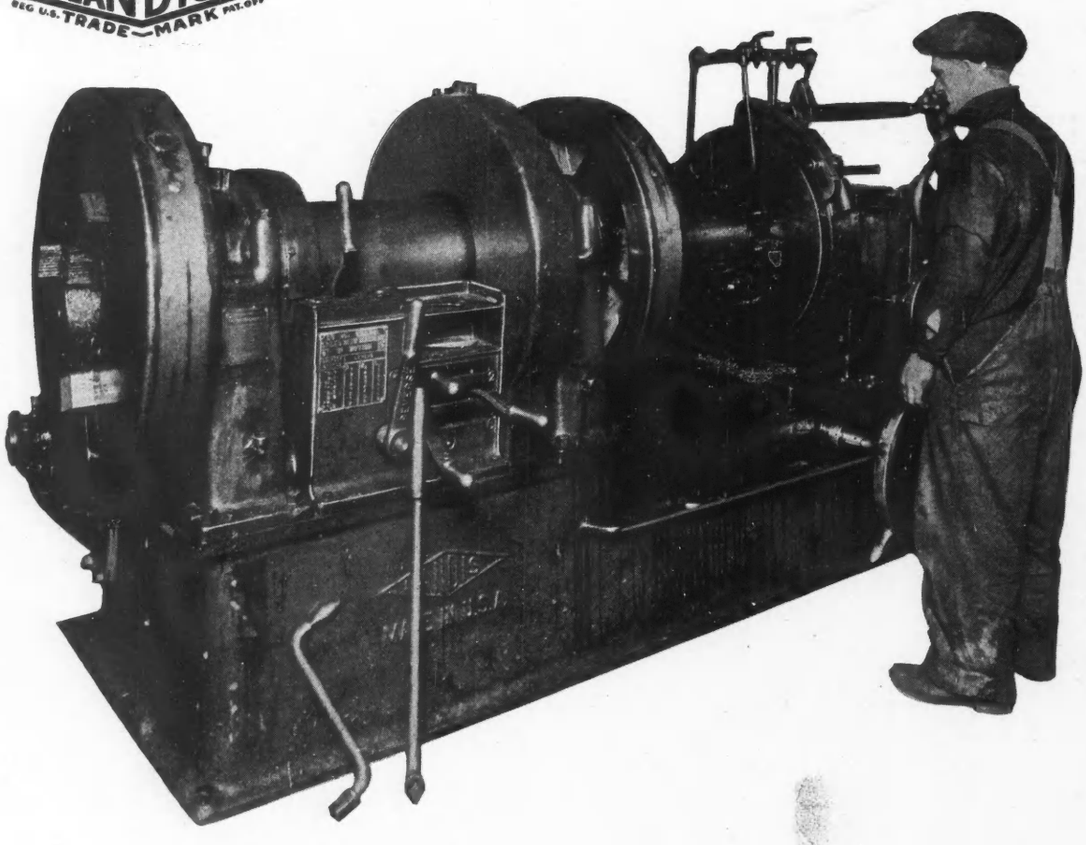
LANDIS REG. U.S. TRADE-MARK PAT. OFF.



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Any way you look at it
REPEAT ORDERS TELL THE STORY
The Cummins Diesel has established a record for Repeat Orders to oil field customers. Its exclusive method of fuel distribution and injection is responsible for its record in oil field performance . . . its cold starting, flexibility, smooth running, fuel economy, low maintenance and proven dependability . . . Cummins Engine Company, 1020 Wilson Street, Columbus, Indiana.
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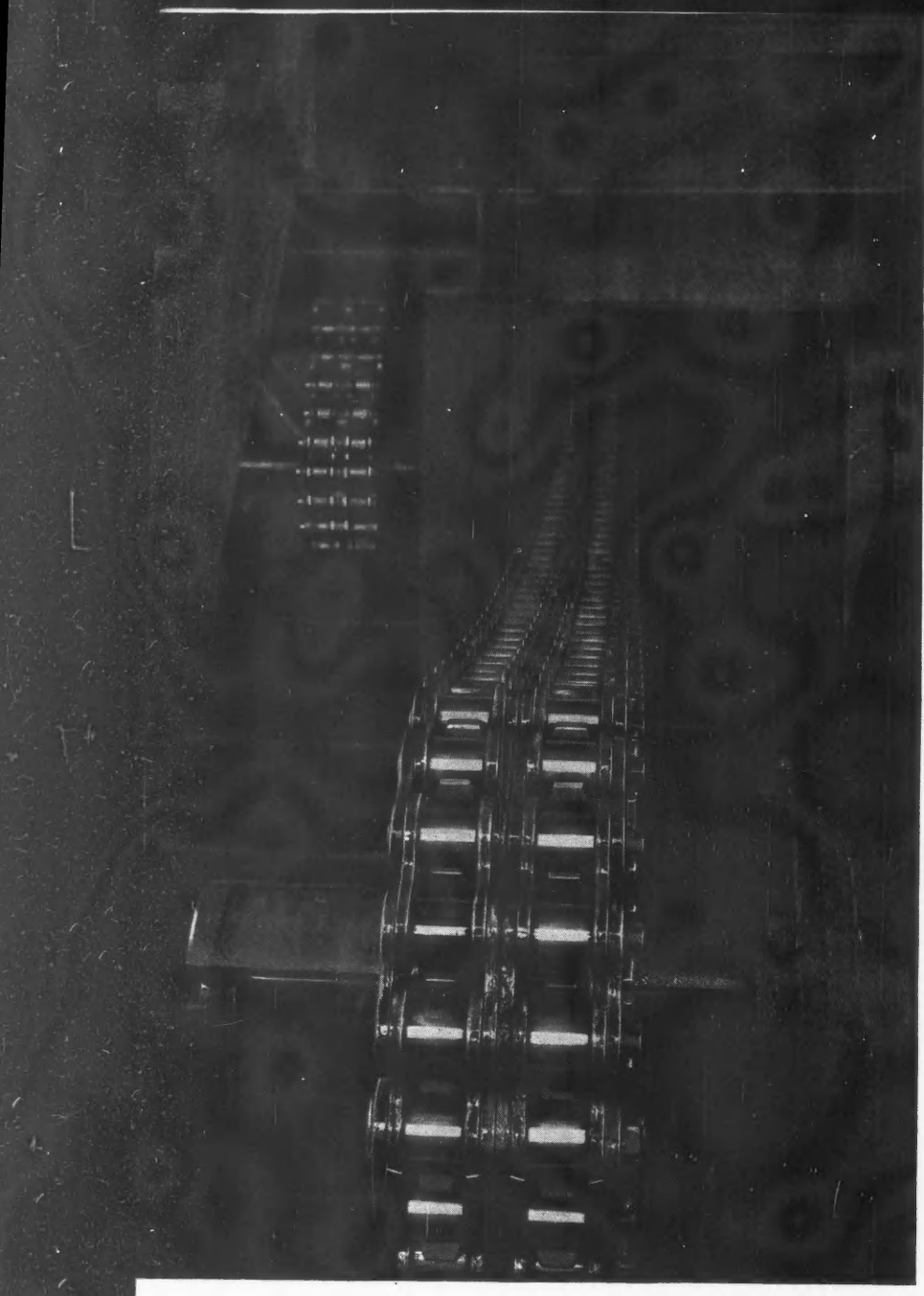
Read the record



DOWN TO 6300 FT.

Like Clock Work at Oklahoma City

● Hugh Pierce, drilling contractor, completed this Oklahoma City well in excellent time, and with no trouble. Performance from "setting up" to "moving off" was as smooth as a "show job." And performance in this field, where they "pour it on 'em" from top to bottom, is no easy job for chain.

We're not crediting this performance entirely to Link-Belt Silverlink Roller Chain, with which the job was equipped. No one product going into the make-up of the complete rig can make a success of a drilling job of this calibre. We do find, though, that Link-Belt Chain serves its part well, in complete drilling units, consistently making record performances.

Address Link-Belt Company, Indianapolis, Philadelphia, Chicago, Los Angeles, New York, Houston, Dallas or Oklahoma City (W. H. Abele, Box 305, Route 4).

5835

ABOVE—Link-Belt Double Width, Silverlink, Finished Steel, Roller Chain Drive from Pump Engine to Pump Countershaft and Drive from Pump Countershaft to Pump.

●

BELOW—Portable Model D-200 Rig equipped with Link-Belt Silverlink Roller Chain. Top view is a close-up of drives on this rig.

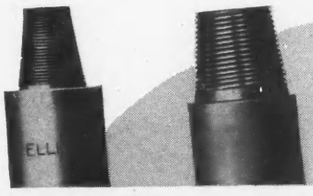
LINK-BELT

Silverlink

T. M. REG. U. S. PAT. OFF.

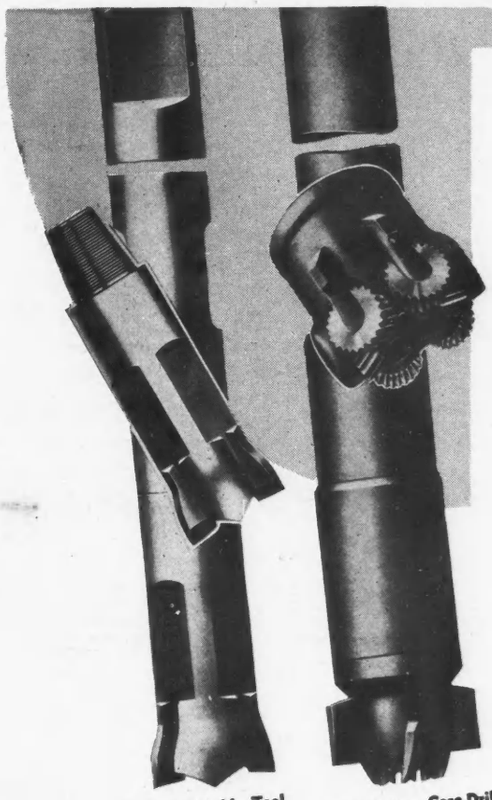
ROLLER CHAIN

●



USED *Exclusively* FOR 15 YEARS IN

ELLIOTT'S CORING SERVICE TO OIL COMPANIES



Elliott Cable Tool Core Drill

Elliott Rotary Core Drill

ELLIOTT Coring Service to oil companies is well and favorably known. It has been in existence ever since Elliott cored the first oil well on a commercial basis fifteen years ago; and has been conducted on a strictly competitive price, performance and service basis. Low manufacturing, operating and maintenance costs; together with superior performance and recoveries always have been vitally essential to the continuation of this service.

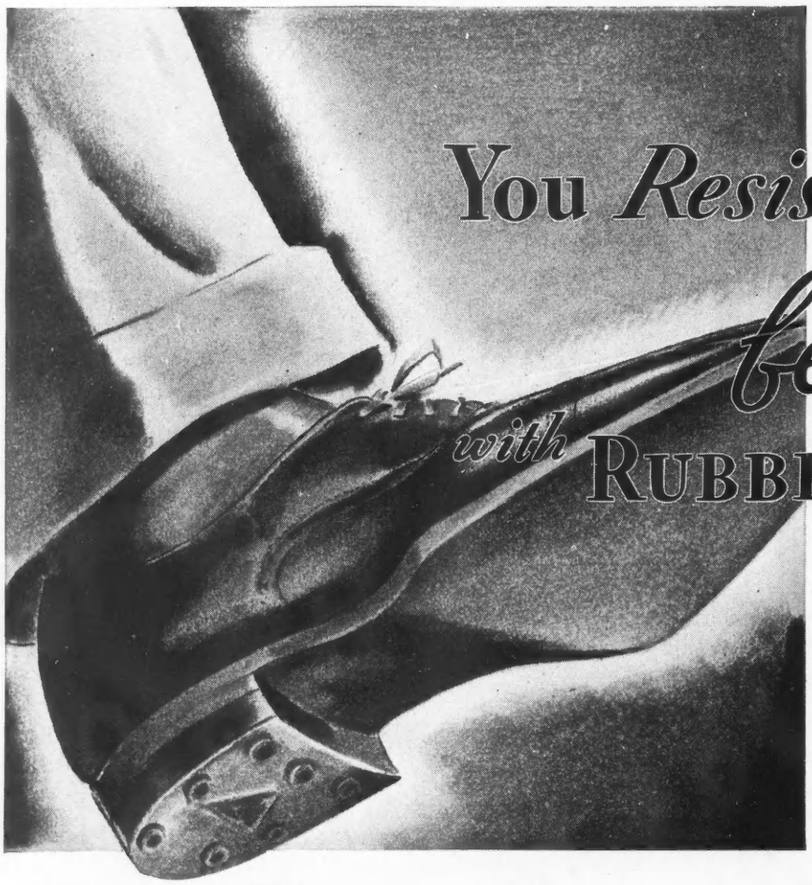
Elliott Core Drills—designed, developed and manufactured by this company—have been used exclusively in Elliott Coring Service. The fact that they not only have enabled, but are largely responsible for, such consistent growth and leadership in this highly competitive field as Elliott has enjoyed, is convincing proof of their superiority in actual coring operations.

This in turn is a direct and logical result of Elliott's continued daily experience in coring practice. Elliott Core Drills are built by the men who use them—who know all the coring problems—and all the answers. They are the best, the most practical core drills these practical core drillers know how to build for their own use.

Your drilling crews also can use these successful coring tools, and be assured of satisfactory recoveries. They are BUILT FOR USE by Elliott field crews, as well as by drilling crews in all parts of the world. Write for descriptive catalog, stating whether rotary or cable tools are used.

Elliott CORE DRILLS

ELLIOTT CORE DRILLING COMPANY
4731 East 52nd Drive, Los Angeles, California, U.S.A.
Export Office: 420 Lexington Avenue, New York City



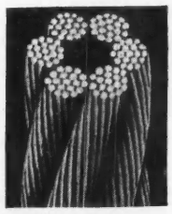
You *Resist Fatigue* better with RUBBER HEELS..

..Wire Rope *Resists Fatigue longer* when PREFORMED

● Rubber heels very effectively reduce the strain and internal muscular stress of walking. They help you resist fatigue.

The preforming process very effectively reduces the internal torsional stress from within the wires and strands of wire rope. This reduction of stress and strain helps preformed wire rope resist fatigue—and therefore it lasts longer.

But not only does preforming tend to eliminate internal torsional stress, but it makes a rope that is flexible and limber, easy to handle, and one that resists kinking. Preformed rope requires no seizing when cut. It splices easily, runs true and spools perfectly. For many jobs preformed rope will give you much greater dollar value. Ask us to send you a sample of preformed rope. It will come to you without obligation or salesman's "follow-up."



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NON-PREFORMED

LICENSEES UNDER PREFORMED WIRE ROPE PATENTS

Educational Bureau • 520 North Michigan Avenue • Chicago, Illinois

Preformed WIRE ROPE

for ***SAFETY · ECONOMY · EFFICIENCY***

Turn to Page 1579 *in this Book...*

for 20 pages of important information... the facts behind the spreading WAVE OF ACCEPTANCE for:

HIGH-YIELD CASING

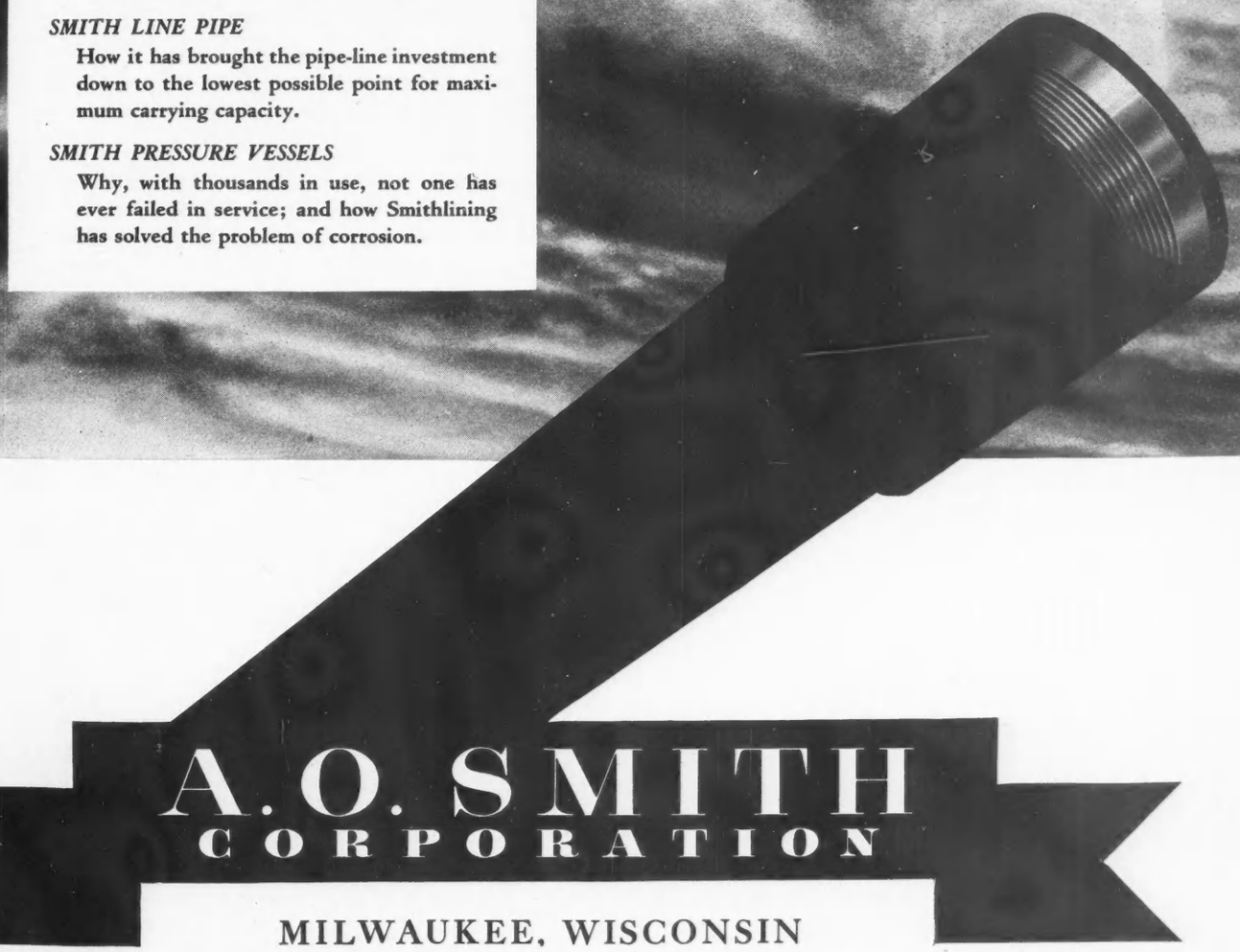
Why it means a greater safety factor... more for your money . . . lower cost wells!

SMITH LINE PIPE

How it has brought the pipe-line investment down to the lowest possible point for maximum carrying capacity.

SMITH PRESSURE VESSELS

Why, with thousands in use, not one has ever failed in service; and how Smithlining has solved the problem of corrosion.



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MILWAUKEE, WISCONSIN

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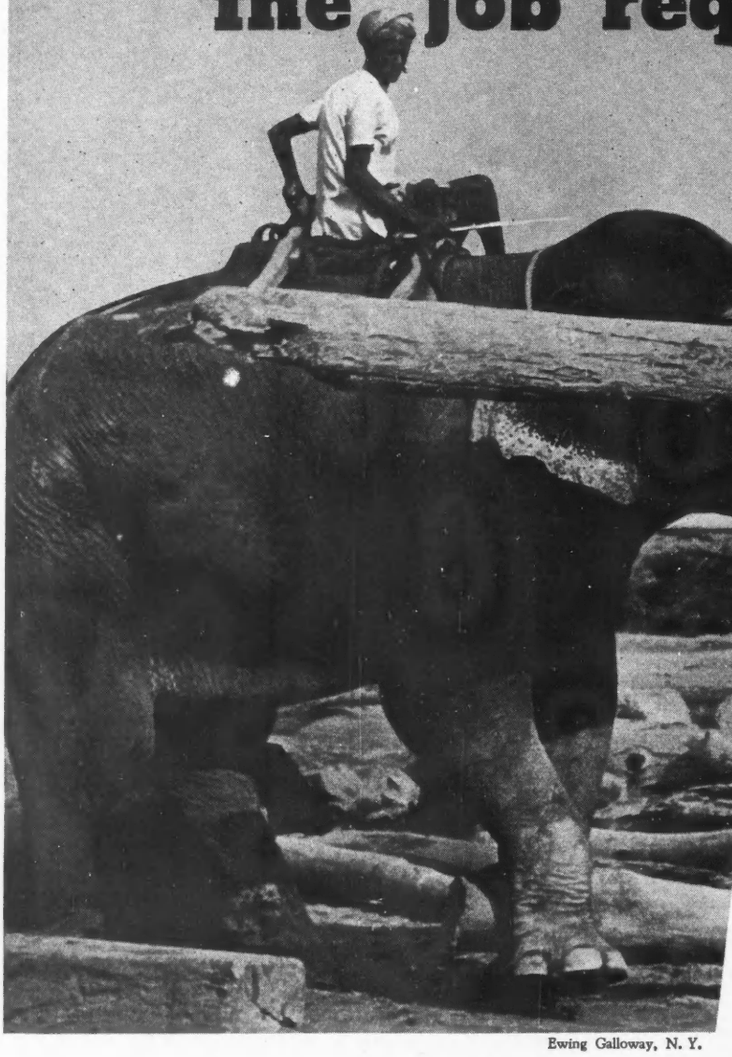
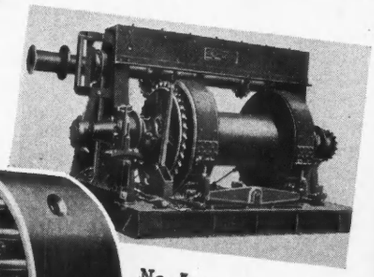
TWICE THE STRENGTH the job requires

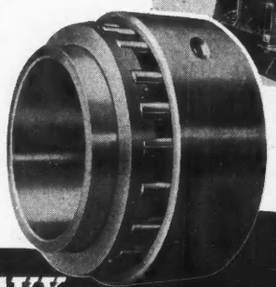


Ewing Galloway, N. Y.

The Wheland Company specifies American Heavy-Duty Roller Bearings for this modern Crown Block and Draw Works. Altogether, 30 manufacturers of heavy-duty drilling equipment standardize on Americans.



No American Roller Bearing application has ever been abandoned.



American Roller Bearings give you an *extra* margin of strength... more stamina than even oil-field equipment would really have to have.

Americans are heavy-duty bearings, *specialized* for the oil fields, designed specifically to stand up under the terrific punishment of heavy-duty drilling.

Put RESERVE STAMINA into your drilling equipment, with American Heavy-Duty Roller Bearings. American Roller Bearing Company, Pittsburgh, Pa.

Pacific Coast Office: 321 W. Pico St., Los Angeles, California.

AMERICAN *HEAVY DUTY* **ROLLER BEARINGS**

GIVE YOUR WELL PROTECTION AGAINST CUTTING ACTION OF WELDED TOOL JOINTS

Use of welded tool joints has become standardized practice in many drilling operations. The welded metal ring is file-hard and projects beyond the normal tool joint diameter. Unless protected with casing protectors, these rings set up a milling action, causing even more casing wear than tool joints not welded.

If welded tool joints are used, *be sure* that genuine Patterson-Ballagh Casing Protectors are installed. This safety measure has been adopted by hundreds of operators who have standardized on these tough rings of seamless resilient rubber.

CUT DOWN ON FISHING JOBS

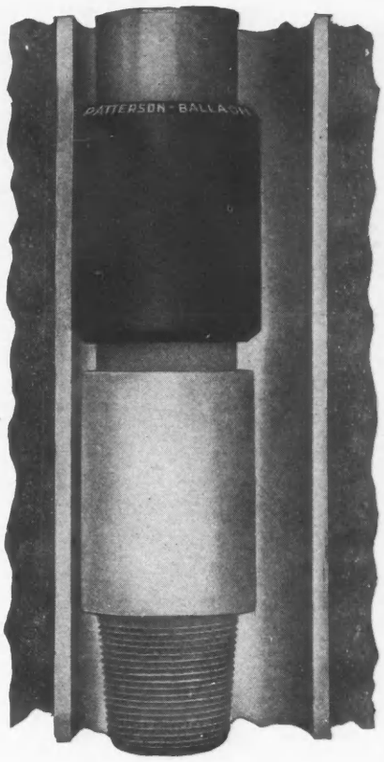
Loss of production in a well caused by even a small fishing job invariably costs more than the price of a string of Patterson-Ballagh Casing Protectors. Perhaps the last fishing job you experienced would not have happened had these resilient cushions of live rubber been used.

You will experience fewer twist-offs, fewer collapsed casing jobs and may eliminate the necessity of re-cementing before the oil string is set.

Thousands of strings of Patterson-Ballagh Protectors have been successfully used. They are standard equipment on practically every deep drilling rotary well. Countless wells could not have been drilled to great depths without the aid of these protectors.

Patterson-Ballagh Protectors are freshly stocked in the principal drilling fields in every required size. Users of these protectors are furnished with the patented Patterson-Ballagh expander tool which permits easy installation.

Literature upon request

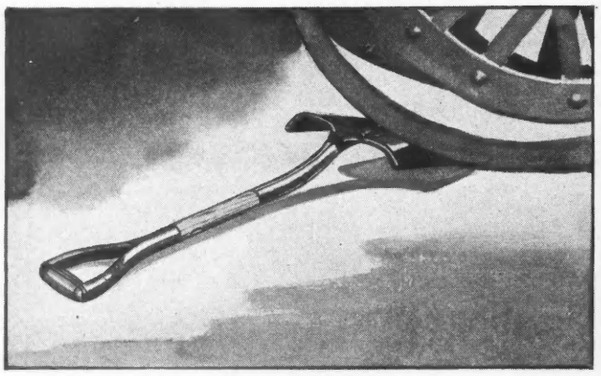


PATTERSON-BALLAGH PROTECTORS

PATTERSON-BALLAGH CORPORATION

Plant and General Offices: 1900 East 65th Street, Los Angeles, Calif., U. S. A.

New York Office: 39 Cortlandt St.
Texas Office: Houston, 515 M & M Building
Oklahoma Office: Oklahoma City, 1704 N.W. 17th St.
Louisiana Office: Box 23, Oil City, La.



they've tried to do our Moly wrong!

These men discovered that the super stamina claimed for WOOD'S Moly Shovels is no idle boast . . .

One user tried to flatten the blade by driving a ten ton steam roller over it . . . to no avail.

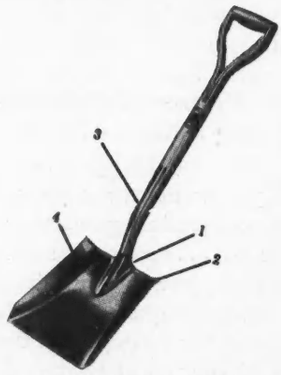
Another hombre swung a 14 pound sledge to the back of a Moly until he tired . . . there wasn't a dent.

Another fellow tested the blade by repeatedly slamming the edge into a concrete wall . . . the only damage was to the concrete.

Still another fellow tried to bore holes in the blade for drainage purposes . . . he ruined two sharp steel drills.

Our own factory torture machine proves that WOOD'S Moly wears *five times* as long as ordinary shovels. This super strength lies in the use of high analysis Molybdenum steel, properly heat treated. We leave to your own sharp pencil the extent to which the extra wear of WOOD'S Moly will cut your shovel bills.

And remember — WOOD'S Moly also features *Closed Back* design, turned shoulder and tapered socket . . . features that make the shovel easier to use and maintain. Get all facts today. Simply write THE WOOD SHOVEL AND TOOL COMPANY, PIQUA, OHIO.



1. *Closed Back* . . . provides smooth back with unrivaled strength of one-piece design . . . also new simplicity of handle replacement.
2. *Turned Shoulder* . . . strengthens blade, saves shoes.
3. *Tapered Socket* . . . strong and solid, fits the hand.
4. *Heat Treating* . . . makes high grade steels in WOOD'S Shovels *hard*, to resist wear.

WOOD'S Moly SHOVELS

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MAKE SURE *Now*... that you'll PROFIT later!

ULTIMATE casing costs may seem relatively unimportant on a new flowing well. But if the well goes on the pump in several years and other costs mount, additional casing expense may be enough to make a well unprofitable.

The best safeguard against increasing casing costs is the choice of uniform, dependable casing in the beginning. NATIONAL Seamless Casing is economical casing because it has the extra strength to meet emergencies that are sometimes encountered in running and cementing, thereby remaining sound and dependable; it stabs easily and screws together smoothly and accurately; it cannot split in a weld a mile or more down — *it has no welds;* and, no matter what the conditions, there is a particular type to suit every requirement — economically, too.

Take no chances — always specify NATIONAL Seamless —

America's Preferred Casing

NATIONAL

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Scientific Metallurgy is constantly being applied to produce "Tomorrow's Steel" but you can depend on Tesco's "Today's Steel" until tomorrow comes.

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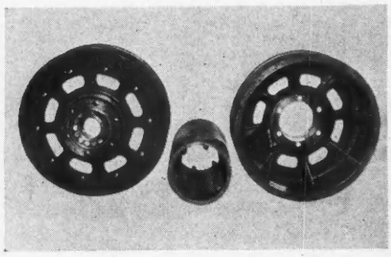
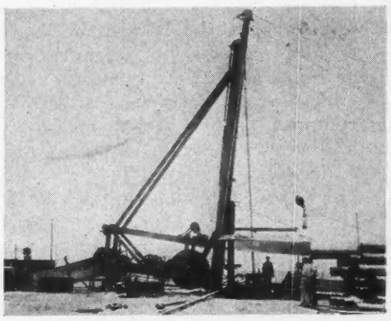
GOOD CASTINGS — CARBON AND TESCO ALLOY STEEL — HOUSTON, TEXAS

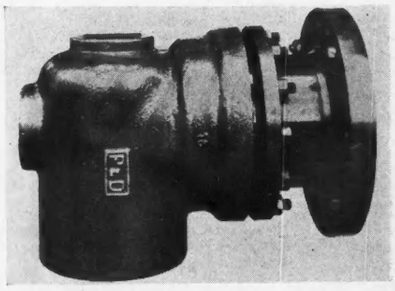
BUILD BETTER OIL TOOLS WITH TESCO STEEL



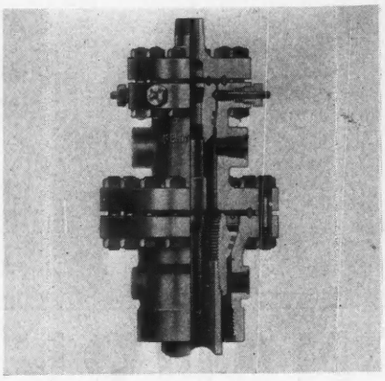
● Portable Rig Brake Drums



● Fort Worth Spudder



● P & D Swivel Ell



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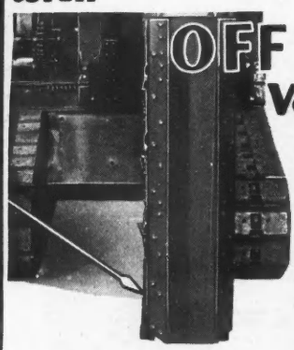
The Barber-Greene UTILITY Special Ditcher

with OFF-SET Vertical Boom



The B-G Model 54 Utility Special available with booms for cutting 8" to 18" wide, 4' or 5' 6" deep. Ask about the Service Special, only 4' wide overall, for smaller work; the B-G Standard which goes to 8' 3" deep; or the Pipe Line Special for high speed cross country trenching.

The exclusive B-G Vertical Boom gives greater diggability on all B-G Ditchers. There is no ramp to clean out by hand at either end of the ditch. It digs right up to walks, curbs, etc.

With the Barber-Greene Utility Special, the boom is not only vertical, but can be quickly off-set to any point between the crawlers, giving the *optimum in diggability*.

The B-G Utility Special is driven through two transmissions, giving instant traveling or digging speed changes to suit any condition.

Full crawler mounting gives perfect maneuverability (it will turn around on a flat car).

Let us send you complete information on the B-G Utility Special, there is no obligation. Phone, wire or write, Barber-Greene Company, West Park Avenue, Aurora, Illinois.

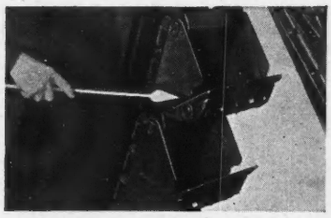
Standardized Material Handling Machines

BARBER GREENE

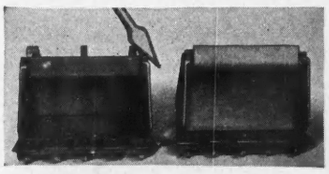
615 West Park Avenue
AURORA, ILLINOIS

37-9

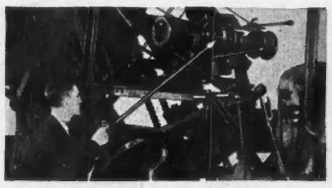
Simply turn this crank to off-set the boom. Can be off-set while digging.



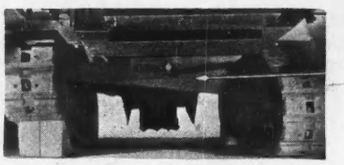
B-G Milling Action digging gives high capacity in easy going, and the ability to cut through the toughest material.



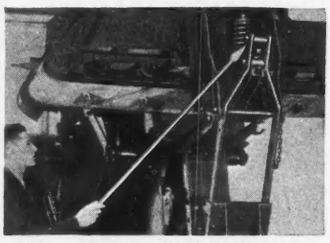
Self-Cleaning Buckets, *Left:* digging position. *Right:* Throw-out position. Manganese nickel alloy steel.



Simple, self-locking power boom hoist.



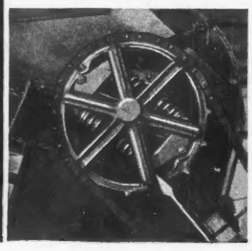
Oscillating axle. Ditcher remains on even keel over uneven surface.



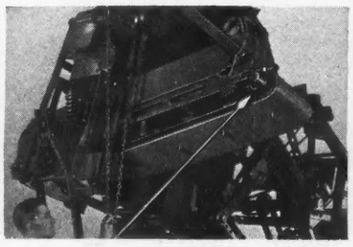
Above: Automatic Self-resetting Overload Release for clean-up scraper.

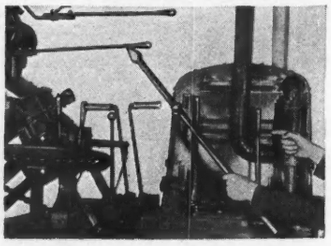
Below: All controls centered for convenient, more efficient operation.

Automatic Overload Release. Automatically slips when buckets encounter overload. Automatically resets itself.



Conveyor quickly adjusted for discharge on either side. Distance of spoil bank easily controlled.





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Black Mirrors and Bright Lights

● No human eye has ever seen the stresses which pressure sets up in valves. No human eye has ever observed the action of such stresses—until their physical effects became visible.

But Crane—in its unending search for valve perfection—is not content to work out stresses by mathematical formulae. With the magic of black mirrors and polarized light, stress patterns reveal themselves as "shadows" in transparent model sections of valves. And so Crane "sees" the unseeable, that Crane valves may prove superior to every condition of service.

Since 1890, Crane has been continually making exhaustive tests on metals and alloys. Pioneering in metallurgical research has shown Crane what combinations of metal and design will do your job better. That is why standard Crane valves are so often the right answer to what seems to be "new" valve problems.

Look in your new Crane No. 52 and other catalogs for the details of over 38,000 items and dimensions tested in the laboratory and proved on the job. Use them when you need valves, fittings, pipe or accessories. CranEquip for satisfaction.

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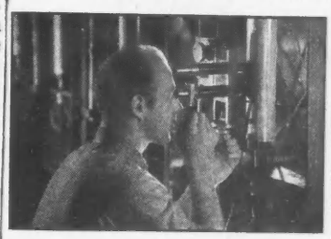
plied in the next few days.

FIND "TOMORROW" AT CRANE PLANT

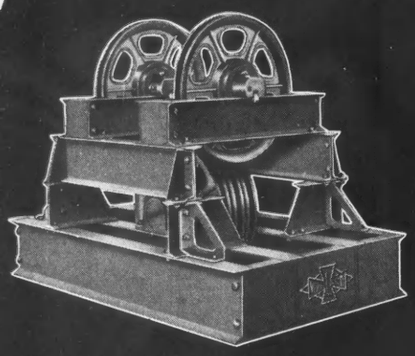


CHICAGO, ILL., April 14—For over eighty years oil and gas engineers have been finding their "tomorrow" needs at the Crane plant. They are still doing so. The organization which was first to create a staff to study the effects of higher temperatures and higher pressures on valve and fitting materials continues to function in the land of tomorrow.

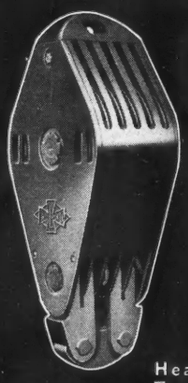
It is never safe to set a limit to the demands of the oil and gas industry. As soon as new limits have been reached in regular practice, someone raises the ante. This is one reason why a big battery of "creep-test" machines continuously torture metals and alloys in the Crane Research Laboratories and men measure results in half-millionths of an inch.

The regular Crane line of valves and fittings, tested in the laboratory and proved in the field, will handle the majority of your problems. You will find the details in your Crane No. 52 or other catalogs. If what you are seeking for tomorrow is not found there, tell us what you want. It is likely that you will find "tomorrow" at the plant.

Performance Plus From Top to Bottom... With WHELAND-LUCEY Rotary Drilling Equipment



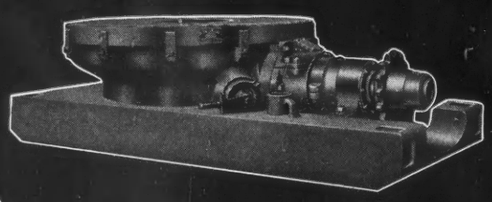
Double Deck Type Crown Block with five 36½" Manganese Casing Sheaves and Catline Sheave.

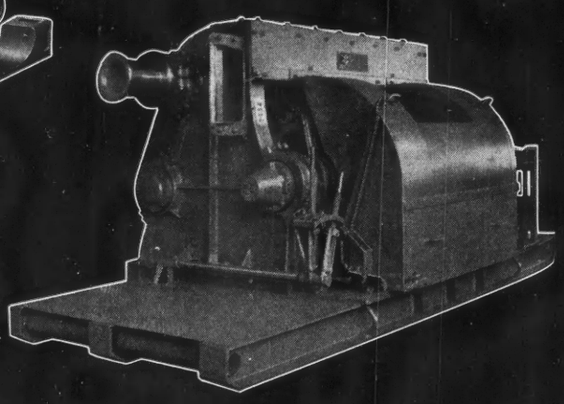


Heavy Duty Streamline Traveling Blocks built in two sizes: 72" with five 36½" Manganese sheaves. Weight complete 8300 lbs., and 86" with five 46" sheaves. Weight complete 9300 lbs.

Type E-6500-B Oil Bath Swivel for deepest drilling, in any territory. Giant Timken Main Load Bearing rated at 350,000 lbs. at 100 RPM and SKF Top Thrust, along with two Lower Stem American Alignment Bearings were carefully selected as ideal for perfect performance.

The New Wheland-Lucey A-18000 27½" Totally Enclosed Triple Oil Bath Rotary. Rugged construction, plus quick, smooth operation.





Type B-3700-B Draw-works with 6 Hoisting Speeds; 3 Rotary Drive Speeds. Water cooled brake flanges, compound brakes, American Roller Bearing mountings on all shafts; unitized assembled construction, extra large rope capacity and horizontal drum drive.

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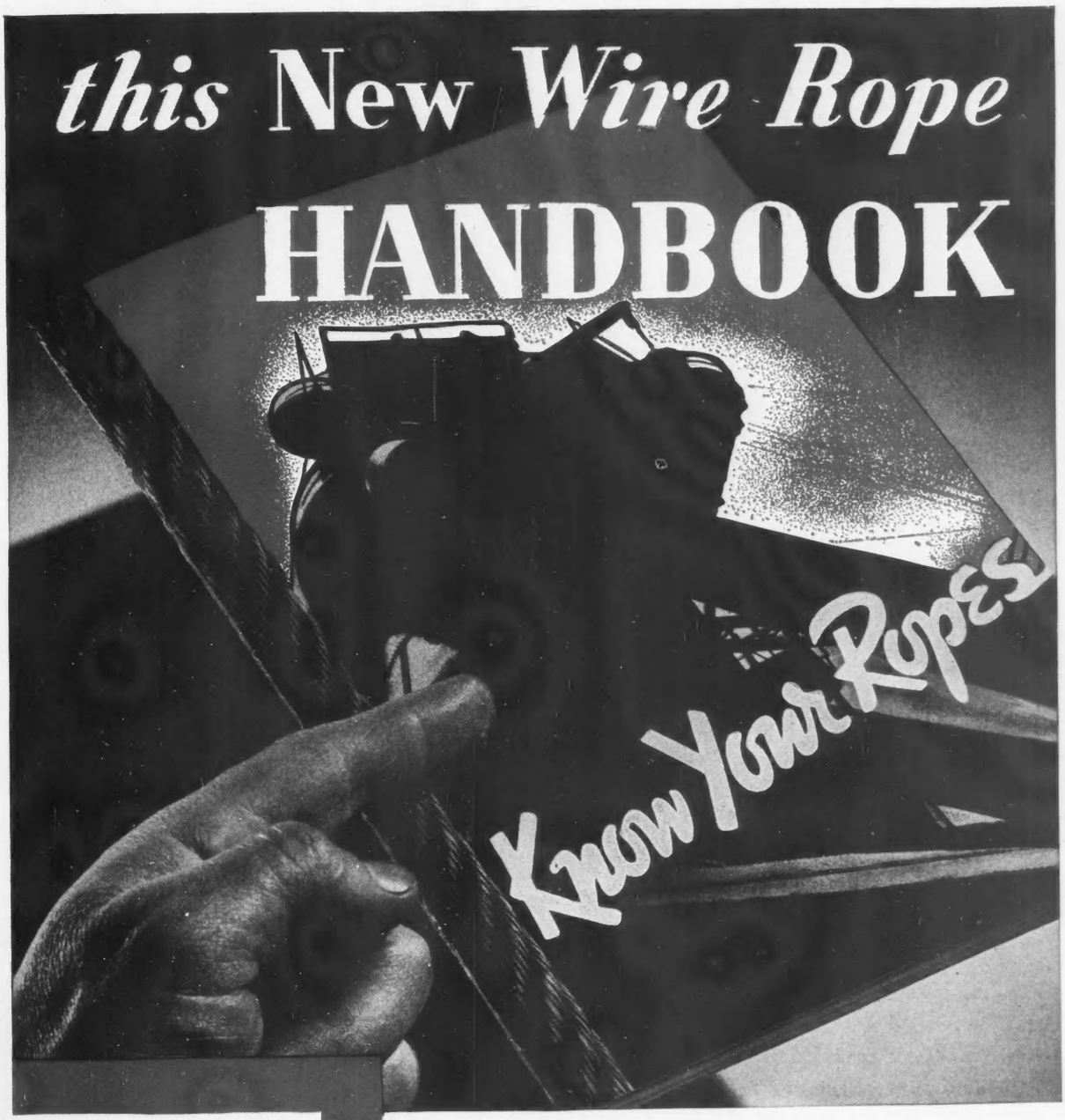

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13 CUTS IN A DEFLECTED HOLE ISN'T LUCK..... IT'S

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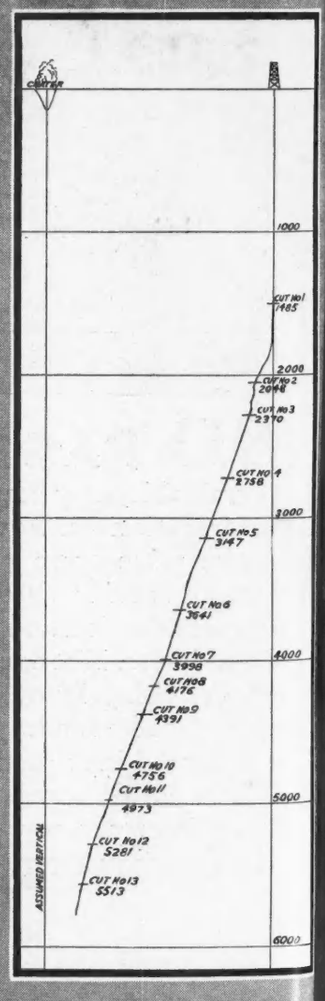

It doesn't take an operator who cut his eye teeth on a Kelly joint to know the hazards of a cratered hole, nor that a burning crater is next to hell itself. But take a look-in on the job that has both of these, plus more than 5,000 feet of drill pipe stuck in the relief hole being drilled to squelch the fire. However, this is not a hard luck story . . . read on:

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There's Always a RED BALL Operator Ready to Solve Your Stuck Drill Pipe or Screen and Liner Job.

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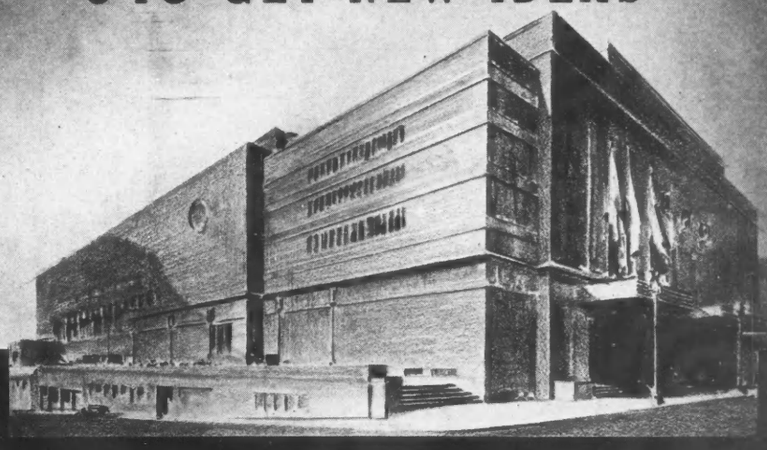
● TO GET NEW IDEAS



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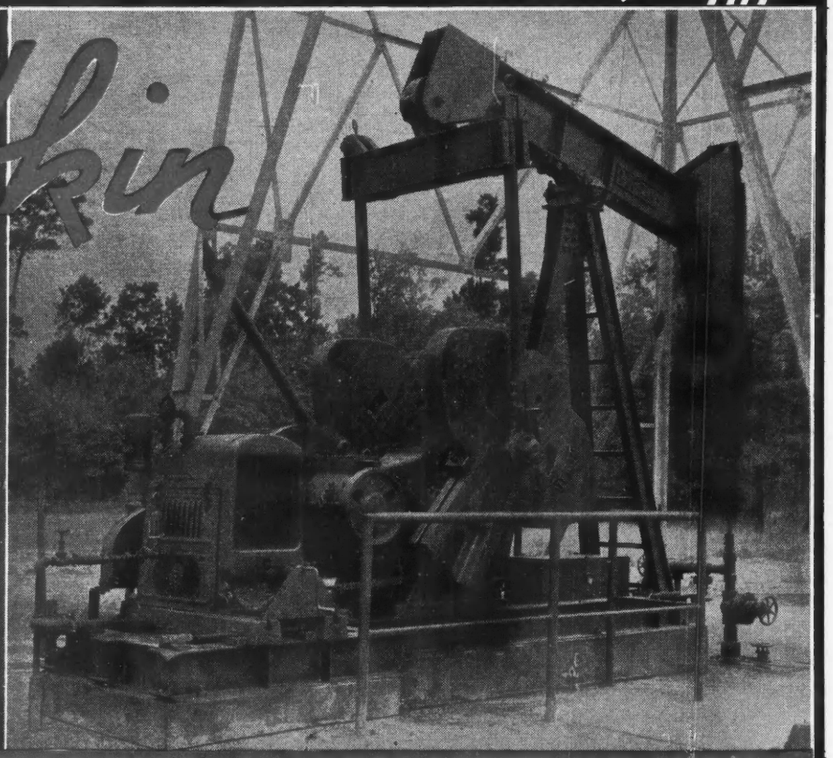

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True enough all Chester Pipe *is* given a seven-fold inspection: Hot Inspection in the welding department; Hot Bed where the pipe is weighed; Crop End Test to determine metal quality and strength of weld; Shop Inspection where threads are gauged and taper and pitches are checked. Then comes the Hydrostatic Test —the Final Inspection of surface, field end and couplings—Weight Checking and Shipping.

We *are* particular about every phase in the making and inspection of "Chester" Pipe. That's why it has the strength for which it is noted — the accurate, unbroken threads for which it is famous.

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Chester also makes "Wrought Iron" pipe—manufactured from genuine old-fashioned hand puddled muck bar.

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And chains and the ropes of ten-line blocks must travel faster

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The Oil Man's Calendar

MAY 6–7	American Petroleum Institute, Division of Production, Eastern District, Columbus, Ohio.
10–16	American Gas Association, Natural Gas Department, Kansas City, Missouri.
19–21	Natural Gasoline Association of America, Tulsa, Oklahoma.
23–27	National Association of Purchasing Agents (Oil Company Buyers Group), Pittsburgh, Pa.
JUNE 1–3	American Petroleum Institute, Mid-Year Meeting, Colorado Springs, Colorado.
5	San Joaquin Oil Men's Barbecue for California Oil Men, Bakersfield.
10–12	Pennsylvania Grade Crude Oil Association, Sailing from Buffalo, New York.
11	Interstate Oil Compact Commission, Santa Fe, New Mexico.
14–19	Second World Congress of Petroleum, Paris, France.
20–26	Golden Celebration of Oil and Gas, Findlay, Ohio.
25–27	National Oil Scouts Association, Dallas, Texas.
JULY	Seventeenth International Geological Congress, Moscow, U.S.S.R.
SEPT. 15–17	National Petroleum Association, Hotel Traymore, Atlantic City, New Jersey.
SEPT. 27 OCT. 1	American Gas Association, Cleveland, Ohio.
OCT. 11–16	Oil World Exposition, Houston, Texas.
14–16	Independent Petroleum Association of America, Houston, Texas.
29–30	Mid-Continent Oil and Gas Association, Texas Division, Dallas, Texas.
NOV. 9–12	American Petroleum Institute, (Annual), Chicago, Illinois.

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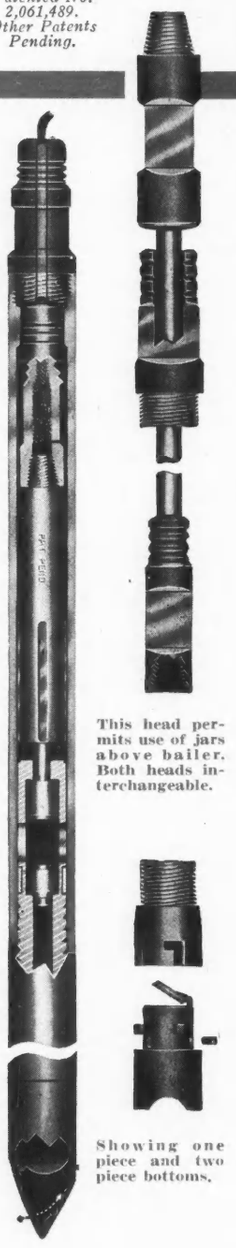

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LOOKING AHEAD

WITH THE EDITOR

Well Shooting Research . . .
Wide or Close Spacing? . . .
Completing High-Pressure Distillate Wells . . .

MOST of us think of well shooting in terms of increasing hole diameters in the producing horizon a few inches. Some even concede the customary shot of nitro might produce a cavity in the sand about equivalent in cubic displacement to an office desk. Few of us think in terms of 20 and even 40-foot diameters as a result of proper study of shot size and sand conditions. Harry Ryder of Bradford tells of research along these lines done in Pennsylvania's best known field in an article on well shooting in next week's issue.

SHOULD wells be widely or closely spaced? This question has received much attention in the past 15 years, and at present increased consideration is being given the problem. The current trend is toward wide spacing, whereas in the period 1926-30 close spacing was favored. Why the change in thoughts? S. F. Shaw, in an interesting article to appear next week, declares there will always be changes in thoughts on the subject. This is because it is so closely aligned with the price of oil. In times of large demand and a high price of oil, the operator desires to produce as quickly as possible, and thus drills more wells. The conditions are reversed when supply exceeds demand and the price is low. The relation of well-spacing to price of oil, to recovery, and to ultimate profit is complicated, and you will want to read Shaw's interesting conclusions.

COMPLETION of a number of high-pressure distillate wells in the Gulf Coast has raised the problem of economically producing such wells. In the Dickinson and Gillock fields some very interesting high-pressure, highly flexible controlling systems are being used. The elaborate control systems installed in these fields will be described in a well-illustrated article.

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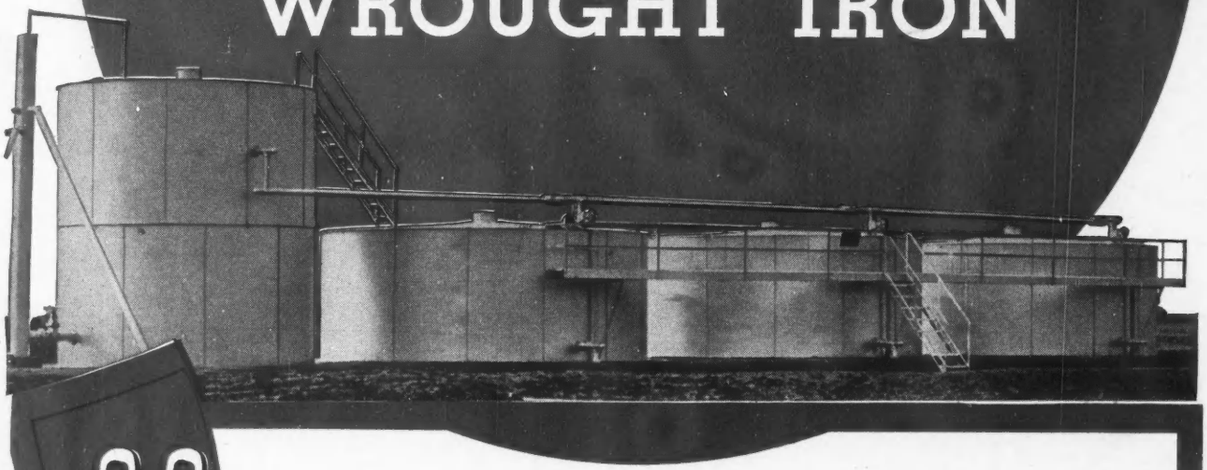

30 major producers have anticipated salt water encroachment and hydrogen sulphide in thirty-two different fields by installing lease tanks of Byers Wrought Iron.

Long past the testing stage, lease tanks of Byers Wrought Iron are now widely accepted for their corrosion resistance to sour crude and for their greater ultimate economy.

Three leading tank manufacturers are shipping Byers Wrought Iron Tanks into Kansas, West Texas, New Mexico and the Gulf Coast, where the economy of this oil-country standby is written in the records of the major producers.

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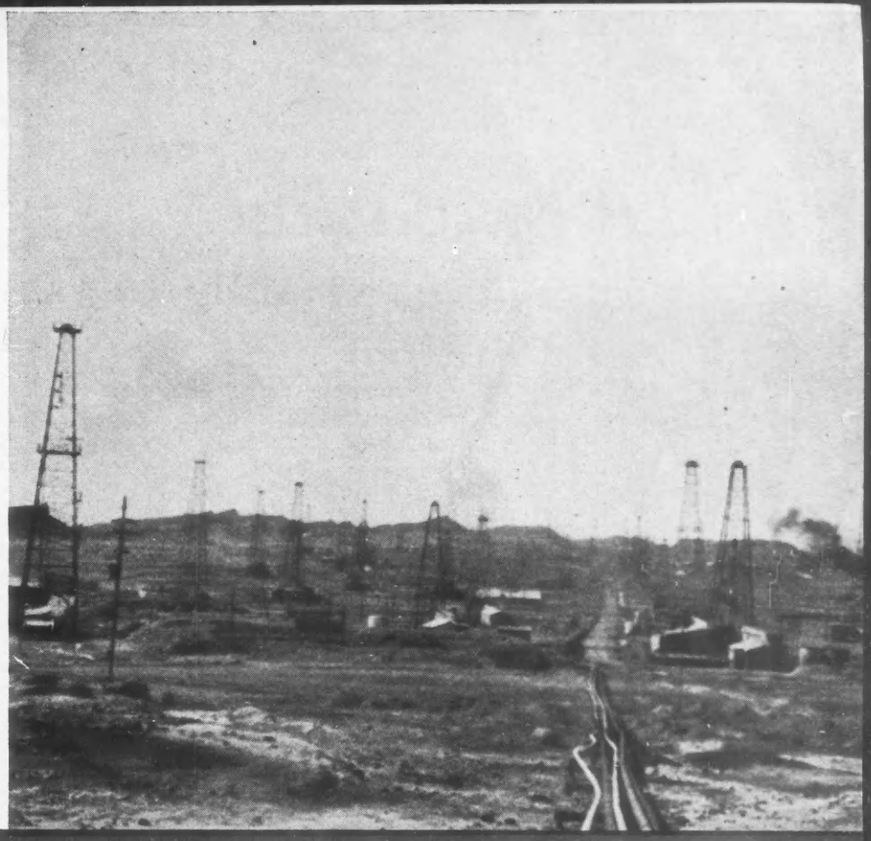
THIS WEEK

» IN THE PUNJAB, INDIA, Attock Oil Company's hopes for substantial production from Khaur field, shown here, rest mainly on commercial production from the deep limestones. High pressures in this old field, discovered in 1914, show little signs of abating. Khaur is still producing from the original shallow sand at 500 feet, although the company's efforts to develop worthwhile production in the 1600-foot sand last year did not result profitably.



AFTER three days of hearings on the Connally Contraband Oil Act before a subcommittee of the House, it appears that this law may be extended for a period of two years, rather than permanently, as passed by the Senate. This change is expected to be the only one made in the bill. **Page 40.**

THE Supreme Court of Texas has held that the Railroad Commission may review any of the orders it has issued, and after a new hearing at which evidence is presented, may revise or modify its orders in any respect the commission members find advisable. This is an important decision that will affect all orders of the commission, and particularly permits for drilling wells in the state. **Page 41.**

GOVERNMENT records show that the wage scale prevailing in the oil industry is higher than in nearly all other industries. Moreover, that the wage scale has increased recently while hours worked were declining. As compared with coal, another mining industry, oil workers are far ahead in every consideration, including the steadiness of employment. **Page 44.**

IT APPEARS that there will be a close balance between crude production and market requirements during the month of May. The six leading producing states, which account for over 90 percent of the nation's oil output, have prescribed May allowables that conform fairly close to forecasts of market demands. Allowables of the six states exceed Bureau of Mines recommendations by the smallest amount during the year, with the exception of the month of April. **Page 42.**

THE year 1936 was by far the most active and successful one yet experienced by Western Kansas. During 1936, many important discoveries were made, including some that opened new trends and formations. There were 54 fields found in the year. Geological work was very active, with 3½ million acres being seismographed and a million acres core drilled. Likewise, there was much leasing, and at present major companies hold 5,800,000 acres of undeveloped acreage in the region. **Page 67.**

CURRENT SITUATION

(Latest Available Weekly Data)

Outlook.—Promising; prices trending higher.

Crude Market.—More talk of higher prices.

Refined Oil Markets. — Strong; prices above week ago.

Crude Production.—Continues at record proportions.

Crude Runs to Stills.—Up 70,000 barrels to new all-time peak.

Crude Stocks.—Up 94,000 barrels in week ended April 10; gain of 12,257,000 in 11 weeks.

Gasoline Stocks.—Down 400,000 barrels last week, with demand good.

Gas and Fuel Oil Stocks.—Down 372,000 barrels continuing decline.

Drilling.—Completions down 66 last week; total 525 wells.

See* MARKET SECTION *for Details

INCOMPLETE development in many fields in Western Kansas makes it difficult to estimate the amount of crude reserves in the region. There are 88 fields with less than six wells in each. Therefore, an estimate of 273,000,000 barrels, made by Marvin Lee in this issue, is considered very conservative. **Page 48.**

THE first commercial production in Western Kansas was found in 1923, and additional discoveries were few for several years thereafter. Since 1927, the region has consistently increased in magnitude, particularly during 1935 and 1936, when 87 new fields were discovered. **Page 50.**

COMPLETION of 180 wells in the Hugoton field of extreme southwestern Kansas, is estimated to have proven 2600 square miles productive of gas. This vast district is calculated to have a total volume of 16 trillion cubic feet of gas. Thus, Kansas has one of the nation's largest gas reserve areas. With the demand for gas increasing, Hugoton is experiencing a greater development campaign. **Page 56.**

See Extension

HOUSE EXPECTED TO EXTEND CONNALLY ACT TWO YEARS

Washington, D. C. — Extension of the Connally Contraband Oil Act for a period of two years from June 15 was foreseen in Washington this week, following three days' hearings on the extension bill by the Cole Subcommittee of the House Committee on Interstate and Foreign Commerce.

As passed by the Senate in March, the act would be made permanent law.

Views expressed by members of the subcommittee during the hearings indicated that the bill would be reported to the full committee without other changes, despite appeals for provisions calling for return of the NRA labor provisions and a demand for disintegration of the major companies.

Features of the hearings were the admission by Secretary of the Interior Harold L. Ickes that the situation now is so satisfactory that he sees no need for federal control, and a declaration by Colonel Ernest O. Thompson, of the Texas Railroad Commission, that Texas was determined to go ahead with its conservation law regardless of whether the Connally act is extended.

Possible reconsideration of the import taxes by the House Ways and Means Committee, with a view toward lowering the rates, was seen in expressions of Representative Pettengill of Indiana that there should be no bar to the free entry of foreign oil if conservation was the primary objective of the state and federal legislation.

Government to Supply Machinery

Appearing before the subcommittee as sponsor in the House of a bill identical with that of Senator Connally, Congressman Martin Dies of Texas explained that the purpose of the legislation is not to give the government the power to regulate prices or control production but to provide the final machinery necessary to make state control successful.

"It has been demonstrated successfully that when oil is produced in a disorderly, haphazard manner without any restriction, the maximum recovery is about 50 percent," he said, "and while the price may be much cheaper than under orderly production, it is a known fact that ultimately it will be prohibitive."

Ickes Reverses Position

A total reversal of his former position on Federal control was admitted by Secretary of the Interior Harold L. Ickes, who told the subcommittee that the states have gone so much further than anticipated in their recognition of the need for conservation that he no longer feels Federal control of the industry necessary.

Submitting a prepared statement before responding to questions from subcommittee members, Ickes declared that during most of the period in which the Connally act has been in operation, the smaller and non-integrated refiners have been able to operate at a profit. Retail gasoline price wars have been infrequent and of limited extent, yet, he pointed out, there has been no material increase in retail prices.

"The oil industry, along with the nation, has recovered from the depressing conditions of 1933 and 1934 to such an extent that the emergency stabilization measures no longer press for attention," he said. "On the other hand, the increasing demand for petroleum products and the mounting production have emphasized the need for conservation.

Wants Production Divorced

Leading the questioning was Representative Carl E. Mapes of Michigan, who sought to secure from Ickes an admission that there should be a divorce of production from marketing.

The secretary pointed out, however, that in the first place the question of disintegration was not affected in any way by the Connally act and, secondly, divorce was an economic question. However, he added, the department has received fewer complaints from independents seeking relief since enactment of the contraband oil law, and the independent group now is believed to be making money. Uncontrolled production, he explained, always has left the independent operator at the mercy of cut-throat competition which the integrated company, with its better financial set-up and organization, has been able to withstand.

Import Discussion Declined

Reflecting the marketers' demand for abandonment of the import taxes, Congressman Charles A. Wolverton of New Jersey bombarded the interior department head with questions as to the desirability of encouraging imports as a means of conserving our own resources, but elicited no opinion from the secretary, who said he would be glad to discuss that matter privately but not publicly. Either side of the import question may be supported by argument, he said, but refused to indicate his position.

"Import Taxes Too High"

Charging that the very fact that imports have not increased as oil prices rose indicates that the import taxes are too high, Representative Samuel B. Pettengill of Indiana who expressed the view that the import levies should be revised and also that the Connally act should not be made permanent, in view of the fact that there was no assurance that, if it were made permanent, the states, in an effort to force prices higher, would not limit production to below demand. His questions brought out the fact that the Texas law, which the act was passed to support, is not permanent and has but recently been extended for a two-year period.

Pettengill also explored the possibilities of providing safeguards against gouging in the act, but Secretary Ickes took the position that congress was always in a position to amend or repeal a law if it seemed necessary and declared that any legislation which might be enacted would have to have the Connally act as a basis.

Arguments Against Bill

The three major arguments of opponents of the bill, it was explained by Chairman William P. Code, Jr., of Maryland, are that it elminates an open market for consumer cooperatives' supply, gives the major companies a practically monopolistic market, and places the retail branch of the industry at a disadvantage.

The secretary pointed out that practically since the inception of the industry the distributors have complained against conditions, but declared that subject has no relation to the Connally act.

Chairman Cole also asked about the legal attacks on the law, in the light of the secretary's statement that the courts have unanimously held the act to be constitutional, although it has never come before the United States Supreme Court.

It was explained by Richard H. Hill, special assistant to the attorney general in charge of enforcement in the East Texas field, that the act has been attacked on practically every conceivable ground, including the charge that it was an undue delegation of power to the states and an undue delegation of power to the president. In every instance, he said, the law has been held constitutional, and while the supreme court has never passed on the statute, the government believes that a recent decision on prison-made goods is definitely applicable to the oil act.

Injects Labor Question

The labor question was injected into the hearings by Representative Lyle H. Boren of Oklahoma, who submitted an amendment to the bill to restore the labor provisions of the NRA oil code. His amendment provided that "no person, firm or corporation engaged in the drilling for, production of, or transportation of crude petroleum in interstate commerce shall employ or cause to be employed any worker for more than 40 hours in one week nor more than 72 hours in any two consecutive weeks nor more than 16 hours in any two consecutive days: provided further, that no person, firm or corporation engaged in the drilling for, production of, or transportation of crude petroleum in interstate commerce shall pay less than $5 per six hours for daily employment."

The proposed amendment was supported by Harvey B. Fremming, president of the International Association of Oil Field, Gas Well and Refinery Workers, who declared that the Connally act is "purely economic and no conservation" and that the latter end is only now becoming an important factor.

Nevertheless, he told the subcommittee, his organization is in favor of the statute, but believes it should be expended so as to provide for conserva-

tion of human effort as well as of oil.

Fremming declared that while the price of oil has been increasing the condition of labor has not been correspondingly improved. He indicated that only about 25 percent of the industry's labor would be affected by the amendment, which is intended to eliminate a small group of operators who are "chiseling" on their workers. On the whole, it was admitted, labor in the industry is satisfactorily treated, with the exception of those employed by a small group.

"Control Prevented Shortage"

Adoption of production controls, including the Connally act, has served to prevent a world-wide shortage of oil which would have occurred had the Texas fields been permitted to produce without restriction during the last five years, it was declared April 28 by Ernest O. Thompson of the Texas Railroad Commission.

"The Connally act has been of great assistance to the state of Texas in preventing the movement in interstate commerce of any oil or products produced in violation of the laws or orders of the state of Texas or its regulatory body," he told the subcommittee.

Meeting the argument presented the preceding day by Representative Pettengill that the act should be continued only for two years in view of the fact that the Texas statute is merely temporary, the commissioner explained that "the present state of the science of petroleum engineering is not so far advanced that we can lay down axioms. It is new and is constantly going through trial by experience.

Prefer to Delay Legislation

"We in Texas, the biggest oil producing state, preferred to test the operation of this law for another experimental period of at least two years before enacting permanent legislation on the subject. We do not yet know just exactly where it is leading or just what statutory standard we should properly set up in the law which would control the greatest industry within our state.

"It's all right with me to make it (the Connally act) temporary," he added.

"Contented Indifference"

"The oil industry today is in what I choose to term a state of contented indifference. There is no chaos.

"There is a firm demand for crude. There is a good, fair price in effect for crude and the consumer is getting a constantly improved product for a reasonable price.

"We have not had one complaint from the operators of the East Texas field in the last eight months. They have learned we are helping them to extend the flowing life of that field and thereby enlarge the ultimate yield."

The state's control effort, Thompson explained in response to questions by Chairman Cole, has been directed entirely toward conservation and has not been influenced by increasing demand. "We are not crowding any field in order to make up demand," he said. "We are producing only about 16 percent of our potential."

Under questioning by Chairman Cole, Thompson declared there was more oil

[*Continued on Page 146*]

Important Decision

COURT RULES COMMISSION MAY REVISE ITS ORDERS

Austin.—An important decision affecting permits to drill wells in Texas, and all orders of the Railroad Commission, was handed down last week by the Supreme Court in the "New Process Case."

The effect of the decision is to allow the Railroad Commission to review any of the orders it has issued, and after a new hearing at which evidence is presented, revise or modify these orders in any respect the commission finds advisable.

In an extended opinion, the court said in part:

"1. That the commission acts as a quasi judicial body in the matter of ascertaining and finding the fact preliminary to the marking of an order refusing an application to drill an oil well as an exception to Rule 37.

"2. That the commission has power to issue and cause process to be served to enter orders that are final unless set aside on appeal and to enforce its judgments which govern valuable property rights.

Must Hold Hearing

"3. That the order dated May 7, 1934, denying a permit to drill the three additional wells was a final order, and the commission's further jurisdiction could not be invoked except upon motion, notice and hearing which was not had when the order of June 29, 1934.

"4. That the purported order of June 29 was a void order because it had been entered without motion, notice and hearing.

"5. That the three wells operated under authority of the void order were illegally operated.

"6. That since they were illegal wells, the operation should be enjoined. . . . "We note that the opinion contains the statement that the Court of Civil appeals correctly decided the other questions presented. The Court of Civil Appeals, after making rulings in substance the same as those made by this court, went further and held that the evidence was not sufficient to show that New Process was entitled to drill and operate the three wells allowed by the order of June 29. It is our opinion that since no motion, notice or hearing was had prior to the entry of the order, the commission was without jurisdiction to determine any issue of fact. Of course, if the commission did not have jurisdiction, the courts obtained none by appeal. We mention this to show that by our former opinion we did not really pass on the question as to whether the facts presented district court showed a meritorious case for New Process.

"It is evident that the order of May 7 was never appealed from and therefore never became operative as a judgment of this or any other court. It is true that we held that such order was a final order, but we only passed thereon, incidentally in determining the validity of the order of June 29, 1934. This last mentioned order was the one brought before us for review by appeal from the orders of the commission. From all that has been said it is evident that we hold that the order of the commission of March 1, 1937, was not entered in violation of any order or judgment of this court. This ruling alone would result in the dismissal of this application for want of jurisdiction to grant the relief prayed for.

Cannot Nullify Court Order

"If we properly interpret the briefs and arguments of counsel for relators, they contend that since the order of May 7 was held by this court to be a final order, the commission is without power to alter or change it, because an administrative body cannot set aside or nullify the judgment of a court of competent jurisdiction. We think we have already determined this question adversely to relators' contention.

Can Review All Orders

"If we further properly interpret relators' briefs, they contend that when the commission once has a proper and lawful hearing on an application to drill as an exception, and such order of refusal is not appealed from, it becomes final in the sense that the commission is without jurisdiction to thereafter reconsider unless there is a showing of changed conditions . . . After a careful study of the pertinent statutes and the rulings of the commission on the question for years, we have reached the conclusion that it ought to be held that the right of review, in spite of the absence of changed conditions, should be upheld.

SIGNS COMPACT BILL

Texas joins compacting states for two years

Austin.—The Interstate Oil Compact bill extending for two years Texas' right to participate in the compact has been signed by Governor Allred.

Senator Weaver Moore of Houston has attempted to have a resolution passed which would give the governor the power to withdraw from the compact should Texas receive less than her proportionate share of the allowable distributed between the various states.

Since the Compact Commission makes no attempt to divide allocations, nor has it the power to do so, the purpose of the resolution seemed to be of political significance alone.

Allocations prescribed by leading producing states conform closely with Bureau of Mines recommendations.

New quotas indicate that crude oil output in May will be largely absorbed by plants in meeting consumer demand.

Allowables Are Near

By L. J. LOGAN,

AT LEAST until June 1 the oil industry will have the highly important advantage of a close balance between crude oil production and market requirements.

This cheerful prospect is assured by the fact that the six leading producing states, which account for about 92.5 percent of the nation's crude production, have prescribed for May state allowables that conform closely with the forecasts of demand as determined by the Bureau of Mines.

These new allowables indicate that in May, all, or nearly all, the output of the wells will be immediately absorbed by the market, and that there will be little or no running of crude to storage.

April Success to Continue

The program for May represents a continuation of the comparatively strict regulation of April, when the state allowables were only silghtly above the federal bureau's recommendations, and when production consequently was fairly close to the market requirements.

The favorable control situation in prospect for May and that which prevailed in April contrast sharply with the conditions that existed in March and February. In those earlier months, allowables of the leading producing states were comparatively lax, and resulted in excessive crude production and the running of substantial quantities of crude oil into storage.

May Schedules Favorable

In the aggregate, the allowables of the six leading producing states for May exceed the Bureau of Mines recommendations 96,736 barrels daily, or 3.1 percent, the smallest excess this year with exception of the only slightly smaller one of April.

The April allowables of the six states combined were 75,099 barrels a day, or 2.5 percent, higher than recommended by the federal bureau. In March the combined excess was 171,742 barrels daily, or 5.8 percent; in February, 148,296 barrels, or 5.2 percent; in January, 111,481 barrels, or 4.0 percent.

These figures on the state allowables indicate, therefore, that May should bring much better balancing of crude production and demand than did March or February; and that the success of the May control should be comparable with the satisfactory results of January and April.

Runs to Storage Reduced

Late last week the Bureau of Mines had not yet issued its report on crude oil stocks for the week ended April 17. Consequently, official information on the reaction of the stocks to the April allowables is available only up to April 10. But that information attests that the April allocations had a favorable effect on the crude stocks, as the total for the United States increased only 94,000 barrels between April 3 and April 10, whereas comparatively large increases had been occurring each week in March and February.

For the rest of April it appears likely that no substantial additions to crude storage will occur. Production has been running at unprecedented high levels, it is true, but crude runs to stills also lately have been at the highest levels in history. Thus the heavy production has been going largely into immediate use at the refineries. Furthermore, the high rates of plant activity have been largely justified, as the output of the refineries has been well absorbed in the markets, with con-

Monthly Fluctuations in United States Crude Oil Stocks in Past Three Months, By Districts

Figures are from weekly reports of the Bureau of Mines, and indicate barrels of 42 gallons.

GRADE OF CRUDE OIL	FEBRUARY PERIOD			MARCH PERIOD			APRIL PERIOD		
	January 30	February 27	Change in Period	February 27	April 3	Change in Period	April 3	April 10	Change in Period
Pennsylvania Grade	4,136,000	4,055,000	— 81,000	4,055,000	3,995,000	— 60,000	3,995,000	3,919,000	— 76,000
Other Appalachian	801,000	882,000	+ 81,000	882,000	817,000	— 65,000	817,000	846,000	+ 29,000
Lima-N. E. Indiana-Michigan	778,000	851,000	+ 73,000	851,000	1,061,000	+ 210,000	1,061,000	1,043,000	— 18,000
Illinois-S. W. Indiana	9,608,000	9,570,000	— 38,000	9,570,000	9,620,000	+ 50,000	9,620,000	9,694,000	+ 74,000
North Louisiana and Arkansas	10,444,000	10,255,000	— 189,000	10,255,000	9,732,000	— 523,000	9,732,000	9,592,000	— 140,000
West Texas and S. E. New Mexico	27,507,000	28,397,000	+ 890,000	28,397,000	29,280,000	+ 883,000	29,280,000	29,561,000	+ 281,000
East Texas	20,047,000	21,814,000	+1,767,000	21,814,000	23,024,000	+1,210,000	23,024,000	23,093,000	+ 69,000
Other Mid-Continent	114,382,000	114,065,000	— 317,000	114,065,000	119,616,000	+5,551,000	119,616,000	120,023,000	+ 407,000
Gulf Coast	23,617,000	24,384,000	+ 767,000	24,384,000	25,861,000	+1,477,000	25,861,000	25,372,000	— 489,000
Rocky Mountain	25,904,000	25,899,000	— 5,000	25,899,000	25,798,000	— 101,000	25,798,000	25,803,000	+ 5,000
California	29,365,000	29,265,000	— 100,000	29,265,000	28,710,000	— 555,000	28,710,000	28,813,000	+ 103,000
Foreign	1,645,000	1,334,000	— 311,000	1,334,000	2,110,000	+ 776,000	2,110,000	1,959,000	— 151,000
Total reported weekly	268,234,000	270,771,000	+2,537,000	270,771,000	279,624,000	+8,853,000	279,624,000	279,718,000	+ 94,000
Estimates of unreported stocks	17,150,000	17,350,000	+ 200,000	17,350,000	17,750,000	+ 400,000	17,750,000	17,750,000	.....
Total stocks	285,384,000	288,121,000	+2,737,000	288,121,000	297,374,000	+9,253,000	297,374,000	297,468,000	+ 94,000

For May Demand

Associate Editor

sumer demand for oils continuing to run at the highest levels in history.

Lax Control Caused Storage Gain

Under the comparatively lax allowables of March and February, in contrast, production was excessive, and there were steady and large additions to crude storage. In the 9 weeks between January 30 and April 3 the nation's crude stocks were increased 11,990,000 barrels, or from 285,384,000 to 297,374,000 barrels.

Those additions to storage occurred in conjunction with the proration circumstances in which allowables of the six leading producing states exceeded the Bureau of Mines recommendations 148,296 barrels a day in February and 171,742 barrels a day in March.

May Allowables Promulgated

Named in the order of their ranking as oil producing states, the six top states include: Texas, Oklahoma, California, Louisiana, Kansas, and New Mexico.

Among those states, there will be in May varying relationships between the state allowables and the Bureau of Mines recommendations. Both Oklahoma and Kansas have prescribed May Allowables that conform exactly with the federal bureau's recommendations. Louisiana went even further in self-discipline, and adopted a state allowable of 8500 barrels, or 3.4 percent, under the recommended daily average.

Texas accounts for a large part of the aggregate excess of the state allowables over the bureau's suggestions, as the Texas allowable as of May 1 is 70,436 barrels above the federal department's recommendation. However, the state's production is so large that this excess is only 5.2 percent of the Texas allocation.

California's May allowable, as prescribed under the state's voluntary proration program, is 20,600 barrels, or 3.5 percent, more than the recommended daily output.

New Mexico in May will exceed the Bureau of Mines recommendations 14,200 barrels daily, or 14.2 percent.

Effect of State Allowables on Crude Stocks

The comparatively lax allowables of February and March resulted in excessive crude production and running of the excess crude into storage.

April allowables were stricter, however, and it is indicated that additions to storage were reduced or eliminated during the month.

For May, the allowables are approximately as strict as for April, indicating that the crude inventory situation will continue satisfactory.

DATE	Barrels Crude In Storage
January—	
January 2, 1937	287,659,000
January 30	285,384,000
Change in period	— 2,275,000
February—	
January 30	285,384,000
February 27	288,121,000
Change in period	+ 2,737,000
March—	
February 27	288,121,000
April 3	297,374,000
Change in period	+ 9,253,000
April—	
April 3	297,374,000
April 10	297,468,000
Change in period	+ 94,000

State Allowables Compared With Bureau of Mines Recommendations

Leading producing states liberalized allowables in February and March, drifting away from federal estimates of market requirements. Excessive production resulted, and crude went into storage, as shown in another table.

For April, however, allowables were stricter, and resulted in reducing the runs to storage.

Again in May the state allowables will be close to the Bureau of Mines estimates of needed production, indicating that the month will bring a close balancing of the output of the wells with the market requirements.

(Barrels Daily)

MONTH AND STATE	Bureau of Mines Recommendation	*State Allowable at Beginning of Mo.	Excess of State Allowable	Percent Excess
January, 1937:				
California	559,900	†551,000	‡8,900	‡1.6
Kansas	165,600	175,851	10,251	6.2
Louisiana	216,300	240,650	24,350	11.3
New Mexico	79,800	92,800	13,000	16.3
Oklahoma	573,100	573,100	.....	....
Texas	1,176,000	1,248,780	72,780	6.2
Total six States	2,770,700	2,882,181	111,481	4.0
Total Nation	2,998,000	.....	.....	....
February, 1937:				
California	573,300	†551,000	‡22,300	‡4.0
Kansas	170,000	187,918	17,918	10.6
Louisiana	225,100	235,700	10,600	4.7
New Mexico	81,600	97,600	16,000	19.6
Oklahoma	581,900	581,900	.....	....
Texas	1,203,400	1,329,478	126,078	10.5
Total six States	2,835,300	2,983,596	148,296	5.2
Total Nation	3,068,000	.....	.....	....
March, 1937:				
California	570,900	†551,000	‡19,900	‡3.6
Kansas	178,000	186,968	8,968	5.0
Louisiana	240,000	236,000	‡4,000	‡1.7
New Mexico	88,200	103,200	15,000	17.0
Oklahoma	590,700	620,460	29,760	5.0
Texas	1,256,600	1,398,514	141,914	11.3
Total six States	2,924,400	3,096,142	171,742	5.8
Total Nation	3,159,000	.....	.....	....
April, 1937:				
California	579,900	580,000	100	0.0
Kansas	183,000	190,200	7,200	3.9
Louisiana	244,800	235,675	‡9,125	‡3.7
New Mexico	91,400	106,400	15,000	16.4
Oklahoma	609,600	620,460	10,860	1.8
Texas	1,297,900	1,348,964	51,064	3.9
Total six States	3,006,600	3,081,699	75,099	2.5
Total Nation	3,243,000	.....	.....	....
May, 1937:				
California	583,300	603,900	20,600	3.5
Kansas	187,100	187,100	.....	....
Louisiana	249,400	240,900	‡8,500	‡3.4
New Mexico	99,800	114,000	14,200	14.2
Oklahoma	622,700	622,700	.....	....
Texas	1,340,800	1,411,236	70,436	5.2
Total six States	3,083,100	3,179,836	96,736	3.1
Total Nation	3,332,900	.....	.....	....

*Allowable indicates daily average for month in California, Kansas, Louisiana, New Mexico, and Oklahoma; except that Rodessa, Louisiana, field allowable increases with completion of new wells; and New Mexico sometimes is revised at middle of month. In Texas, the allowable is as of the first day of the month, and gradually increases as new wells are completed.

† Recommendation of Central Committee of California Oil Producers.

‡ State allowable below Bureau of Mines allocation.

Oil Wages High

GOVERNMENT RECORDS SHOW MOST INDUSTRIES PAY LESS

Washington, D. C. — A wage scale higher than that prevailing in nearly all other industries is seen in Washington as eliminating wages as a major argument of the Committee for Industrial Organization in its efforts to bring the workers in the oil industry under the banner of John L. Lewis.

Only by demanding adoption of the 30-hour week with the same weekly pay envelope as now prevails can the CIO make wages an issue, for the wages of employes in the production branch of the industry, rising steadily over a period of many months, now stand at a level far above the average for all industry and exceeded in but a few lines, according to figures compiled by federal agencies.

Oil Wages Higher

Putting it bluntly, the average weekly earnings of employes engaged in production in January were $31.08, according to the monthly report of the division of labor statistics of the Department of Labor, while the average for all manufacturing industries was $24.04.

Higher, indeed, were the average earnings in January of $35.23 reported for the printers of newspapers and periodicals, and the $32.47 of workers in the electric and manufactured gas utility companies, but both of those industries are urban activities with the averages raised by the much higher wages required in the very largest cities of the country.

On the other hand, well over 100 industires reported lower pay envelopes.

The $31.08 average reported for the oil industry represented an increase of 6.8 percent over the corresponding month in 1936, although it was a flat one percent under the average for December, 1936, the department reported.

On the other hand, the average hourly earnings of 79.2 cents in January represented an increase of 1.2 percent over the preceding month and nine-tenths of one percent over January of last year.

The average working week in January, it was reported was 39 hours, 1.8 percent less than in December but 5.1 percent longer than in January, 1936.

As against these figures, the average hourly earnings for all industries during the month were 59.7 cents and the average working week 39.6 hours. For all industry, the average hourly earnings were up but three-tenths of one percent from the December level, although four percent above those of January, 1935, while the working week was 3.6 percent less than in December but 5.9 percent greater than in the preceding January.

Greater Than Coal Wages

There has been considerable discussion of wages in the oil industry as compared with those in coal mining, where John L. Lewis for years has been a dominant figure. But there is really little or no comparison, for the coal mining industry is subject to employment fluctuations to a far greater extent than oil production.

The cold figures, however, show that Lewis has far to go before he secures weekly wages for his coal miners comparable to those now paid by the oil producers, for while the average hourly earnings in January were 81.2 cents for anthracite coal and 79.5 cents for bituminous coal, the former 3.4 percent under December and 2.3 percent under the preceding January, the latter one-tenth of one percent under December but 1.7 percent over the preceding January, the average weekly earnings were but $22.97 for 27.7 hours in the anthracite branch and $23.96 for 30.7 hours in the bituminous mines.

Annual, rather than weekly, earnings would be the gauge of comparison between the two industries, and here the advantage would be with oil, far less subject to seasonal, holiday and other *interruptions of employment* than coal mining. There are, however, no recent

[*Continued on Page 46*]

Secretary of Labor Frances Perkins is pictured chatting with Walter Teagle, president of Standard Oil Company of New Jersey, at a recent conference in Washington, D. C., at which representatives of labor and industry met with Secretary Perkins to discuss collective bargaining and other provisions of the National Labor Relations Act. (International News Photo).

EDITORIAL COMMENT

By His Works, Ye Shall Know Him

WHEN we published our first editorial on the efforts of the C. I. O. organizers from the coal fields to organize the oil industry, we referred to the oil industry workers as the best-paid workers in industry. This was no idle statement. Official figures from the United States Department of Labor conclusively bear out the statement.

Elsewhere in this issue of THE OIL WEEKLY appears a story from Washington giving some details on how oil industry wages compare with those of other industries. The figures given in this story show that on January 1 wages for employes in the production branch of the oil industry were more than 33 percent higher than the average wages of all manufacturing employes. The Department of Labor figures showed, too, that oil-production employes had had an increase in wages in the 12 months prior to January 1, 1936, of 6.8 percent, which is fairly conclusive evidence that the wild claims of C. I. O. organizers that they were responsible for raises are without foundation. Further wage increases have come to many employes in the production branch of the oil industry since January 1, 1937—and to anyone knowing anything about executive workings, wage increases must be planned well in advance of the date of announcement.

The coal industry is the industry in which Lewis and his cohorts first tried their tactics. They have had years in which to get the results they say they will try to get for the oil industry, but in the coal industry the employe, after a year's work, has nothing like as much to show for his work as is the case in the oil industry. Of course, conditions are different in the two industries, and ability to pay no doubt enters into the question of any wage scale.

But the idea of these coal industry organizers coming into the oil industry to help the status of workers is absurd on the face of it.

We have made considerable inquiry as to the progress being made by the C. I. O. men in misleading oil company employes, and the information we have been able to secure is that the men in the field are looking with suspicion on the effort. Not only have wages been good, and increasing without C. I. O. effort, but relations have been pleasant.

The workers know that not only will they be required to pay tribute to the union organization through initiation fees or monthly dues, or both, but that they may be called off their work and pay on the order of a fellow who gets his income, undisturbed from the union, whether the boys paying the dues are happily working or starving on strike.

A Difficult Situation

DURING the recent bloody war between Bolivia and Paraguay over ownership of the Chaco district, radicals in various parts of the world, and particularly in certain parts of South America, made the claim that the war was being financed for Bolivia by Standard Oil Company of New Jersey, and a constant wave of propaganda was directed at the company and the American government as a result. Now it appears that Bolivia feels differently. Bolivia claims that the Standard, which has an investment of $16,000,000 in Bolivia, did not enter into the spirit of the war and do its part!

Which shows the difficult position of a neutral at any time.

Americans who think that all a company has to do to make a fortune is to move into some foreign country and develop oil fields can well take a lesson from Bolivia—and, incidentally, it is not the first lesson afforded.

Apparently, it is not all beer and skittles when it comes to operating abroad. Foreign governments are anxious to have outside capital come in and help develop natural or other resources, but they forget this welcome when the investment has been made and a plum hangs dangling before their eyes.

No brief can be offered for any company which resorts to fraud in its operations at home and abroad, but the real facts in the Standard of New Jersey-Bolivian government argument indicate that it is easy to cry fraud, and in some instances get away with it just because a large oil company is concerned, when as a matter of fact no fraud is actually involved.

The time will come when the American government and the American people will be very glad of the fact that American oil men have carried their operations into the four corners of the earth. At the present time some American operators feel that such foreign operations constitute a menace to the industry at home, but time will change that and those American pioneers who have moved into the jungles and high plateaus of other countries, taking with them courage and ability, will some day be looked upon with the valuation which their foresight deserves.

Oil Wages High

[*Continued from Page 44*]

figures showing annual earnings for the two industries.

Ever since the adoption of the oil code, wages have been going up and hours have been going down in the oil industry, after a steady drop in wages between 1929 and 1932.

Work Less Hours Now

A report of the Department of Labor on conditions in the production branch of the industry in August, 1934, placed the average weekly earnings for that month at $28.22, as compared with $24 in November, 1933, and $34 in May, 1929. But to make $34 per week in May, 1929, an employe had to work 51 hours at 66 cents per hour and to make $24 in November, 1933, he had to work 33 hours at 74 cents an hour, whereas in July, 1934, he worked but 34 hours at 79 cents to make $27.

As far back as July, 1935, the attention of officials was centered on the improvement which was taking place in the petroleum industry. In an article in the Monthly Labor Review of the Bureau of Labor Statistics, it was pointed out that:

"Measured in terms of the volume of employment and amount of pay rolls, the petroleum industry has made great strides toward recovery since May, 1933. Between that month and July, 1934, employment increased 62.1 percent in drilling and production, 32.1 percent on pipe lines, and 22.3 percent in refining. Pay rolls rose 74.7 percent in drilling and production, 45.7 percent on pipe lines, and 31.4 percent in refining

"These increases may be contrasted with the reductions experienced by the industry during the depression. Between May, 1929, and May, 1933, employment declined 48.6 percent in drilling and production, 39 percent on pipe lines, and 26.8 percent in refining. For pay rolls the decreases amounted to 62.1 percent in drilling and production, 45.3 percent on pipe lines, and 42 percent in refining. In spite of the increases after May, 1933, both employment and pay rolls in July, 1934, were still below the level of May, 1929. Employment in July, 1934, was less than in May, 1929, by 16.7 percent in drilling and production, 32.1 percent on pipe lines, and 10.5 percent in refining. The difference in pay rolls for the two periods amounted to 33.8 percent in drilling and production, 20.3 percent on pipe lines, and 23.8 percent in refining."

The department's statistics, which it must be remembered cover only actual cash wage payments and do not include bonuses, profit-sharing plans, pensions, low cost housing or any other provisions made by the industry for the benefit or welfare of its workers, show that the average hourly earnings in January of this year were 13.2 cents higher than in May, 1929—before the depression—and 23.2 cents greater than in May, 1933, when the low of 56 cents was reached; weekly earnings, while $2.98 less than in May, 1929, were $7.08 greater than in November, 1933, and the average working week, while six hours greater than in November, 1933, was 12 hours less than in May, 1929.

In other words, employes in the industry during the first month of the current year worked 12 hours a week less to make within $3 of what they made before the depression, according to the department figures.

All the figures, of course, are averages. They do not distinguish between the highly paid skilled labor and the less well paid common labor, nor has the Department of Labor made any recent survey of hourly wages. The latest figures available cover 1934, at which time only 1.3 percent of the employes surveyed made less than 42.5 cents an hour and only 6.7 percent made less than 52.5 cents, while 9.6 percent made $1.00 an hour or over and 48.8 percent made better than 77.5 cents an hour.

In crude oil production, employment in 1936 ranged only between 70.8 and 75.4 percent of the 1923-25 index on which the Labor Department bases its computations, with an average at 72.9. This variation of 4.6 points compares with a range of 20.1 points in anthracite mining, between 41.1 and 61.2 percent of the 1923-25 base, with an average of 51.8 percent; and of 8.4 points in bituminous mining, between 75.5 and 83.9 percent, with an average of 79 percent. For all industries surveyed by the department, there was a fluctuation of 11.3 points, between 86.8 and 98.1 percent of the base, with the average at 91.9 percent.

A survey of the industry, accordingly, shows that (1) a steady reduction is being accomplished in the length of the working week; (2) hourly earnings have steadily increased and are superior now to pre-depression days; (3) weekly earnings are close to those prevailing before the depression; (4) actual buying power is at a high level due to the welfare activities of the industry in the way of group insurance, low cost housing, etc.; and (5) the oil industry offers a steadiness of employment greater than that of most industries, which brings annual earnings to a high level, further increased by bonuses and profit-sharing plans.

WESTERN KANSAS

This issue of The OIL WEEKLY is especially devoted to a live subject, an up-and-coming oil area—Western Kansas. It is at its all-time production and development activity height at this moment, and appears destined to become even greater. Of 155 producing fields in Western Kansas, 87 were discovered during 1935 and 1936. There are 45 fields in the district in which only one well has been drilled, and approximately half the fields have less than six wells. Last year 3½ million acres were seismographed and a million acres core drilled in the state. On this basis, activity and crude production output of the region are due to increase in the future.

The contents of this book are of such nature, we believe it will prove of lasting value, as well as of current interest. The Western Kansas section, which commences on page 47, consists of a number of special articles, complete detailed development and historical data on each field, and an unusually interesting and valuable insert map that shows the producing formation of each pool.

WESTERN KANSAS

DEVELOPMENT NUMBER

With Special Insert Map

MAY 3, 1937

DISCOVERY OF MANY NEW FIELDS IS INCREASING

The Crude Oil Of Western

IN estimating oil reserves the writer's tendency is to submit conservative figures. Consequently the 155 oil fields now producing oil in Western Kansas likely will produce more than the 273,000,000 barrels here set down as their future recovery.

Two facts dictate conservative estimates. The first is that records of older fields, which are the guide in estimating new, show more instances of fields failing to reach or to exceed early expectations than of fields exceeding early estimates. Caution signals are more numerous than optimistic invitations, so the pencil moves under restraint. The second is the existence of production under proration. Many wells are now produced under conditions which do not permit production to capacity for comparison or the using of what the wells of a field have produced at a percentage rate as an index of ultimate recovery.

Incomplete Development of Fields

A further handicap, which applies in particular to estimates in Western Kansas, is the existence of so many fields of incomplete development. The area has 88 fields with no more than six wells in each. There are 45 of only one well; 14 of two wells each; 8 of three well development; 12 of four wells each; 7 in the five well class; 2 of only six wells. Lack of adequate pipe line outlet, field ownership by one or two producers and the current necessity and policy of the industry to hold unrequired reserve supplies underground are chiefly responsible for this slower development.

SOURCES OF WESTERN KANSAS RESERVES

From Lime Formations	226,000,000 barrels
From Sand Formations	31,000,000 barrels
From the Conglomerate	16,000,000 barrels
Total Reserve	273,000,000 barrels

Limes of Western Kansas are of Pennsylvania, Mississippi and Ordivician ages. In this classification is the formation known to the area as "chat," which is found in the upper portion of the Mississippi lime.

The conglomerate is a basal portion of the Pennsylvania rocks and on account of unconformities is not found at any uniform stratigraphic position. In some instances it is a sand, possibly the same as the Reagan sand in Oklahoma and the Lamotte sand in Missouri.

A few instances of Wilcox sand exist in Western Kansas.

Factors Affecting Estimation

Determination of reserves for fields of these classes calls for selection of a measuring device of arbitrary nature. A study of older fields is its source. An average recovery per acre and an average per well acreage of similar structures is the most reasonable approach to what may finally be produced from fields of limited development.

This status of incomplete development in more than half the fields under consideration leaves it impossible to accurately treat the subject by individual fields or wells. Within the present number are several, which will come to substantial ultimate recovery, just as have some of the older fields of similar type. It is also true that some of these will be limited by dry holes and that ultimate recovery will fall short of the estimates dictated by applying a uniform measuring device to the fields of this class. Oil price reduction would be a great factor but there seems to be more reasons for it to advance to delay instead of hasten abandonment by becoming lower.

Producing Formations

The estimates on these fields of limited development are restricted to the known producing formations. Where development has uncovered but one producing formation, the calculation does not include oil except from known sources. Since it is the characteristic of the area for some fields to have two and three and sometimes more producing formations, this possibility enters as evidence that the estimates in the latest discovery areas will in time be found low rather than high.

Lime formations are credited with more than half the oil that will be produced from all fields in the area.

Effect of Proration

Because of proration better recovery may be expected from lime producing sources than with 100 percent production. Proration has been applied long enough to establish itself favorably for lime production. When oil is produced under restriction from

Reserves Kansas

THIS estimate of known reserves in Western Kansas is restricted to the part of the state west of the principal meridian. It gives no consideration to the older fields, east of this meridian.

Neither does it include oil recovered from fields of the western area prior to January 1, 1937. It is an effort to determine the amount of oil still to be recovered by known producing methods, from the fields now existing.

Undoutedly more oil fields will be added from current drilling. Development will enlarge some present fields. To whatever extent this occurs, reserves of Western Kansas will be increased.

By MARVIN LEE
Consulting Geologist

lime, water intrusion is delayed. The record indicates that ultimate recovery from some lime fields under proration may be 30 to 40 percent greater than by recovery under maximum production practices from the discovery date.

It is not feasible to give this restricted production factor full force in estimating reserves, since proration cannot be expected as a permanent practice. Increasing demand for oil or decline of fields will end production restriction before exhaustion. Such a change would leave producers to decide what practices to follow in recovering oil from lime formations for conservation and ultimate recovery. Past history and competition usually indicates maximum production may be expected when 100 percent sale of oil is possible.

New Large Fields

A striking fact in studying ultimate recovery in the area is the absence of fields of extremely high ultimate recovery. There is not a field which gives indication of producing 20,000,000 barrels in the future. Past output plus indicated further recovery would place a few into that division but this study is confined to future production. The area has three fields whose further recovery stands between 12,000,000 and 20,000,000 barrels. There are but two between the 10,000,000-barrel and the 15,000,000-barrel limits. Two should yield 9,000,000 barrels and there are two in the 8,000,000-barrel division. Three indicate 7,000,000 barrels of additional recovery and three are classed as 6,000,000 barrels. One is credited with 5,000,000 barrels. Two are classed as 3,000,000-barrel reserves. In the 2,000,000-barrel class are seven while there are nine in the 1,000,000-barrel division.

Thus, more than half the oil yet to be recovered from known sources in Western Kansas must be taken from the fields which indicate that they have reserves of less than 1,000,000 barrels each.

The few fields of high ultimate yield are the older areas and in most instances these fields are producing from more than one formation. They are old enough for development to have been completed in both area and producing horizons. It is possible by accepted methods to project output curves in these instances with the assurance of arriving at safe figures.

RATE OF WESTERN KANSAS FIELD DISCOVERIES BY YEARS

Year	Number	Percent
Prior to 1930	27	17.4
1930	10	6.5
1931	8	5.2
1932	5	3.2
1933	4	2.6
1934	14	9.0
1935	41	26.4
1936	46*	29.7
Total	155	100.0

***Includes some fields originally separately named but now merged by development; also includes separate common sources of supply of fields.**

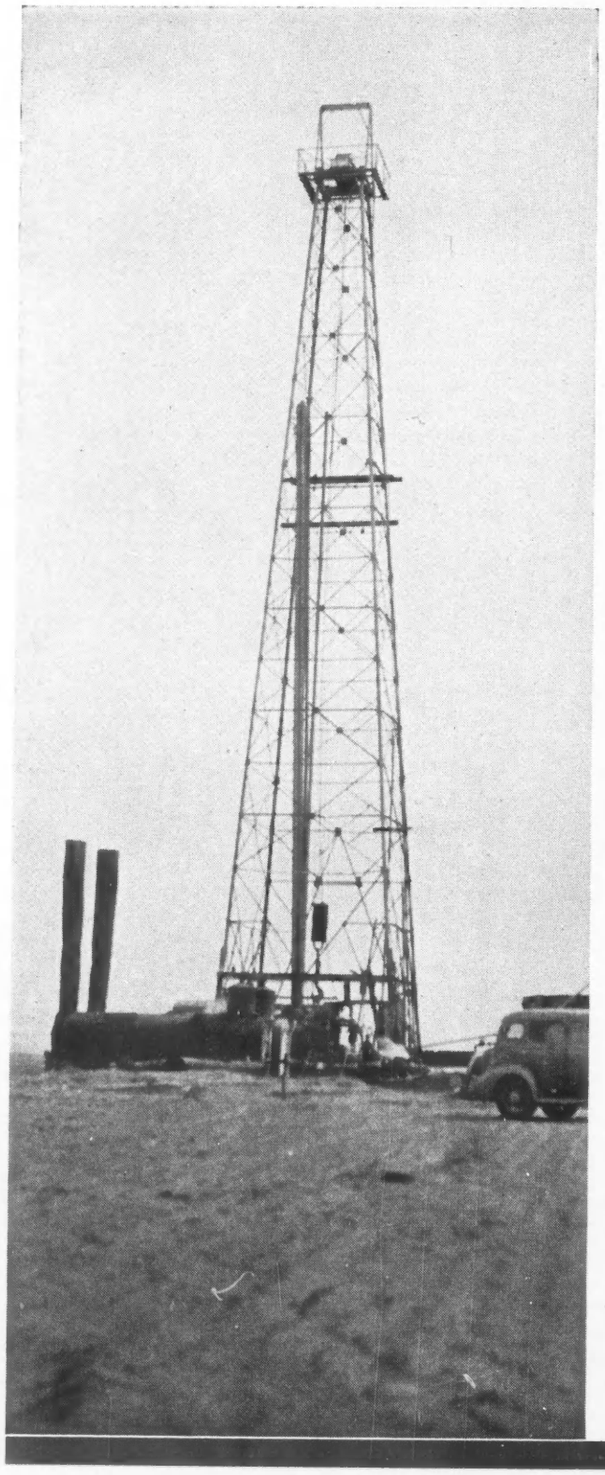
Large Development Recently

The age of these fields is one of comparison within the area of Western Kansas, including townships west as a source of oil is new territory.

Prior to 1930 it had but 27 oil fields and its history in commercial production dates from 1923. Development lagged after 1930, when 10 oil fields were discovered, as there were but eight discoveries in 1931, five in 1932 and four in 1933. The total for 1934 rose to 14, while 1935 brought 41 discoveries and in 1936 there were 46 new producing areas added.

Future Development

The activity in both leasing and required and forced drilling indicates there will be another large addition to reserves in 1937 through extensions of present fields as well as the finding of new ones, probably another reserve increase of over 50,000,000 barrels. Early 1937 development indicates that the rate of Western Kansas drilling will probably equal the 1936 record, which was the largest of previous years, but a smaller number of new fields is anticipated.



Western

By GRADY TRIPLETT, Staff Writer

ALTHOUGH the search for oil in Western Kansas dates back to 1888, it was not until 1923 that commercial production was found. Between these dates the area was looked upon with favor because of gas and oil showings in some wildcat venture, only to reach a status of low esteem by both geologists and oil producers as failure was written against the investment in leases and drilling.

Russell Was First Field

The first commercial well in Western Kansas was completed by Valerius Oil & Gas Company, November 24, 1923, when Carrie Oswald 1, SWc SE 8-12s-15w, came in for an estimated 200 barrels daily. The oil bearing formation was between 2998 and 3037 feet. It could not be identified, so it was given the title of the Oswald lime, following the name of the land owner.

This well was 125 miles from any other production. The block of leases had been assembled by Lucky Seven Oil Company. Surface geology was instrumental in determining the location. It was drilled on the Fairport anticline in Russell County and in time the field was called Fairport. This concern later turned its acreage to Valerius Oil & Gas Company, which early in 1924 had provided a market for the oil through a short pipe line shipment and a rail haul.

This well replaced hope with fact and brought an extensive wave of geological research as well as leasing. The geologist, however, was handicapped because he knew little of subsurface conditions. Of this Edward C. Koester has written:

"The geologist was severely handicapped in his work. The cretaceous rocks covering the surface lent themselves very well to mapping the surface structures, but nothing was known of the more or less complex nature of the subsurface beds. Several unconformities, which are now known, were little understood at that time. The major structural feature of the state, the Central Kansas Uplift, was not known, and its relation to surface structures could not be realized. As a result, many of the wells which were drilled during the first wave of excitement would now be frowned upon in the light of present

Both cable tools and rotary rigs are used in Western Kansas. It is not unusual to find both kinds in the same field. The above rotary rig is temporarily shut down because of the loss of circulation in the "breaks," which sometimes occurs in the far southwest portion of the territory.

The picture on the opposite page is a typical Western Kansas field scene. It shows Dickey Oil Company's recent Hunton lime producer in Graber field of southwest McPherson County. Pay horizon is 3319-40 feet. Graber field has produced 327,700 barrels up to the first of this year.

Kansas History

DATES BACK TO 1888, BUT FIRST COMMERCIAL WELL WAS IN 1923

knowledge. The result was that a large number of dry holes were drilled in Russell and adjoining counties in 1924 that discredited the general area. These disappointments, together with the fact that few major companies held acreage in the Fairport field tended to discourage development.

Second Field in 1924

"However, oil production was found in another Western Kansas county in 1924 when the chat producing Welch pool of Rice County was found. It was followed by the completion of many dry holes located by a doodlebug and these further tended to discourage Western Kansas exploration. The Midwest Exploration Company, however, which has opened up several fields in Western Kansas, continued its search in Russell and adjoining counties and was rewarded with the South Fairport and Gorham fields in 1926. In September of the same year, gas was first found in McPherson County in the McPherson field, but oil was not discovered until 1928. A chat discovery in Kingman County in 1926 came in as a flowing well but soon went to water, and this disappointment was increased by the completion of over 20 dry holes in Reno and Kingman counties. Rooks County came into the picture in 1927 with a small discovery near Laton, and in the same year oil was found for the first time in Reno County on a Kansas City lime structure near Abbyville. None of these wells opened an important field and a discovery in Sumner County was equally unimportant. At the close of 1927 Western Kansas had produced less than 5,500,000 barrels of oil, of which the original field, Fairport, had contributed nearly 4,000,000. Russell, Rice, Reno, Rooks, Sumner and Kingman counties were the only ones in which commercial oil had been found. Most of the discoveries had been followed by fruitless drilling campaigns, the chief value of which was in supplying subsurface geological information. None of the marketed production came from the pre-Mississippian rocks."

This part of the history of the area by Koester describes the years when much valuable work was being done without satisfactory commercial results. Drilling was encouraged because of the few instances of substantial production.

A combination of more knowledge of subsurface conditions, improved prospecting methods and equipment and the use of acid in completing wells brought Western Kansas into the limelight as an oil producing area. The use of the core drill, the seismograph and torsion balance were the new prospecting equipment introduced.

The discovery record for 1934, for instance, shows 24 new fields added to the list in Western Kansas. Nine of these were credited to the core drill. Five wells were drilled after subsurface study. Another five fields were discovered after use of instruments, the seismograph, the torsion balance and the magnetometer each having a share in the work. The remaining wells were drilled either on surface findings or by following trends.

Below are the principal producing formations of Western Kansas as they were found productive in the drilling campaign that developed the area:

Tarkio lime found productive in 1936 upon completion of R. C. Tarrant's Williamson 1, SE SE NW 9-14s-4w, Russell County, completed for 240 barrels initial, top of formation 2515 feet, total depth 2550 feet.

Topeka lime, found productive in Hartman & Blair's Rauback 1, SE SE NW 2-14s-15w, Russell County, initial production 4050 barrels, top of formation 2780 feet, total depth 2799 feet, completed in 1935 to open the Sullivan field.

Kansas City lime, found productive upon completion of E. B. Merriam's Anderson 1, C SW 29-18s-2w, McPherson County, initial production 15 barrels between 2330 and 2344 feet, opening the McPherson pool.

Mississippi chat, found productive by Prairie Oil & Gas Company's (now Sinclair Prairie Oil & Gas Company) Welch 1, SE SW NW 35-20s-6w, for 105 barrels between 3370 and 3415 feet, to open the Welch pool, Rice County, in 1924.

Hunton lime, found productive upon completion of F. H. Hallow's Church 1, SW SW NW 20-22s-3w, Harvey County, for 385 barrels initial, 3507 to 3509 feet, to open the Hallow pool in 1931.

Viola lime, found productive upon completion of Bu-Vi-Bar et al's Wright 1, SE NE SE 12-26s-1w, for 1700 barrels initial output between 3363 and 3367 feet, opening the Valley Center pool in Sedgwick County.

Arbuckle lime, found productive upon completion of Phillips Petroleum Company's Shutts 1, C NE 5-12s-17w, for 290 barrels initial production between 3569 and 3575 feet to open the Shutts pool of Ellis County in 1928.

Wilcox sand, found productive by Gulf Oil Corporation's Douglass 1, NE SE NW 23-34s-2w, initial production 480 barrels, between 4490 feet and 4500 feet, to open the Corbin pool, Sumner County, in 1927.

Areas Now Prorated

Proration in Kansas became a necessity because of the development in the western part of the state. Voluntary agreements were the first basis of curtailing production. Shell Petroleum Corporation and Gulf Oil Corporation formed the first agreement in order to reduce output of the Lygrisse pool, Sedgwick County, June 1, 1929, by reducing output of the few wells to 100 barrels per day. In October of that year the producers of the Valley Center pool, also in Sedgwick County, agreed to reduce output by 50 percent of potential tests that had been taken the last half of September. Similar agreements brought restricted output in the Ritz-Decker-Garrett and the Voshell pools.

Further development, however, resulted in the passage of a state law which became effective May 28, 1931. Since then proration has been under the supervision of a state regulatory body. The present body is the Kansas Corporation Commission.

The basis of proration is to allow a percentage output figured on well potentials. This has resulted in an exaggerated potential figure, which could not be matched in daily output. A check of field output figures for March showed 39 fields, which fell so far short of allowables for the month that it seems safe to accept the allowables rather than the potentials as the capacity of these fields to produce.

Committees are now at work in an effort to compile information from which the Kansas Corporation Commission can change rules for taking potentials as well as revise potential figures. Many producers are of the opinion that more than 30 fields can be removed from proration restrictions.

West Kansas Raises Production of State

Steady increase of Kansas crude output in recent years due largely to development of new fields in western portion, which has most of state's flush fields and furnishes large proportion of total Kansas production.

By L. J. LOGAN, Associate Editor

PRODUCTION figures strikingly attest the importance that Western Kansas has assumed in the oil industry in that state, the nation's No. 5 oil producing state.

Up to April 1, this year, Kansas had produced well on toward a billion barrels of crude oil—a total of 852,789,955 barrels. And of that amount, approximately one third was produced prior to 1924, when Eastern Kansas furnished the only oil output of the state; while the remaining two thirds has been produced in the past 13 years, 1924-1937, when Western Kansas was adding its numerous flush fields to the settled production of the eastern portion of the state.

From January 1, 1924, to April 1, 1937, Kansas production totaled 562,169,800 barrels, whereas in all the state's earlier oil-producing history, back to 1889, the production was 290,620,155 barrels.

Production Rising Since 1923

Prior to development of the first commercial oil production in Western Kansas in 1923, the state assumed importance even with only the eastern portion yielding crude oil. In fact, the output in that pre-1923 period was for a while almost up to the present proportions, reaching a peak of 46,536,125 barrels in 1917, compared with the Kansas all-time peak of 58,226,000 barrels last year. But after 1917 the state's output gradually fell off to 28,250,000 barrels for 1923.

Since 1923, the output has gradually worked upward to the figure just given for 1936. This year apparently will bring another all-time record. For in the first three months of this year, Kansas production was about 23 percent higher than in the similar period last year.

Large Part of State's Output

Through the successful development of Western Kansas since 1923, that portion of the state has assumed more and more importance until it now practically dominates the Kansas picture in oil.

Today, Kansas oil means largely Western Kansas oil. Of all the state's present crude oil production of around 190,000 barrels daily, Western Kansas accounts for about 84 percent.

For the week ended April 17, this year, Kansas production averaged 192,600 barrels daily, according to the American Petroleum Institute estimates. That was about in line with the state allowable and a little over the Bureau of Mines recommendation for the state's average daily output in April.

Of that 192,600 barrels daily production in mid-April, it was indicated that about 161,750 barrels, or 84 percent, came from fields of Western Kansas, and that 30,850 barrels a day was from Eastern Kansas fields.

Newer Fields Boost Output

The dominance of Western Kansas in that state's present oil picture is illustrated convincingly also through analysis of the flush, semi-flush, and settled production in Kansas.

Such an analysis reveals that the present status of

Kansas Crude Oil Production, by Years

Year	Barrels Production	Year	Barrels Production	Year	Barrels Production
1889	500	1906	3,627,000	1921	36,456,000
1890	1,200	1907	2,409,521	1922	31,766,000
1891	1,400	1908	1,801,781	1923	28,250,000
1892	5,000	1909	1,263,764	1924	28,836,000
1893	18,000	1910	1,128,668	1925	38,357,000
1894	40,000	1911	1,278,819	1926	41,498,000
1895	44,430	1912	1,592,796	1927	41,069,000
1896	113,571	1913	2,375,029	1928	38,596,000
1897	81,098	1914	3,103,585	1929	42,813,000
1898	71,980	1915	2,823,487	1930	41,638,000
1899	69,700	1916	8,738,077	1931	37,018,000
1900	74,714	1917	36,536,125	1932	34,848,000
1901	179,151	1918	45,451,017	1933	41,976,000
1902	331,749	1919	33,048,000	1934	46,482,000
1903	932,214	1920	39,005,000	1935	54,787,000
1904	4,250,779			1936	58,226,000
1905	3,750,000			1937 (3 months)	16,025,800
				Total	852,789,955

Kansas Crude Oil Production, by Fields, by Years

Complete Production History of State, in Barrels of 42 U. S. Gallons.

(Sources.—Annual Statistical issues of The OIL WEEKLY, the figures being based on weekly reports of the American Petroleum Institute.)

YEAR	Augusta Butler County	Augusta-Douglas Butler County	Augusta-Fox-Bush Butler County	Bemis	Blankenship Butler County	Bloomer Barton County	Burrton-Haury Reno County	Chase Rice County	Churchill Sumner County	Elbing Butler County	Elbing-Peabody Marion-Butler Counties	Eldorado Butler County	Eldorado-Towanda Butler County	Florence-Covert Marion County
1889–1921	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1922	.....	5,239,943	.....	.....	319,125	.....	.....	.....	.....	.....	5,193,550	7,745,843	.....	4,157,567
1923	.....	1,515,112	.....	.....	1,588,530	.....	.....	.....	.....	.....	4,518,158	6,683,552	.....	1,974,820
1924	.....	1,232,303	.....	.....	1,155,644	.....	.....	.....	.....	.....	3,298,095	6,120,096	.....	958,194
1925	.....	1,321,700	.....	.....	941,017	.....	.....	.....	.....	.....	2,146,247	5,257,313	.....	747,784
1926	.....	.....	1,786,575	.....	.....	.....	.....	.....	922,560	.....	1,560,995	.....	5,166,135	672,070
1927	.....	.....	1,608,925	.....	.....	.....	.....	.....	5,377,040	.....	1,394,325	.....	5,003,520	630,845
1928	.....	.....	1,367,050	.....	.....	.....	.....	.....	3,801,400	.....	1,264,850	.....	4,945,600	433,700
1929	.....	.....	1,087,550	.....	.....	.....	.....	.....	2,412,950	.....	1,127,000	.....	5,651,600	353,450
1930	.....	.....	1,043,150	.....	.....	.....	.....	.....	1,447,700	.....	1,031,800	.....	5,014,450	294,700
1931	.....	.....	1,020,350	.....	.....	.....	.....	.....	1,114,950	.....	715,800	.....	5,069,750	268,250
1932	.....	.....	931,050	.....	.....	.....	.....	.....	789,350	.....	680,300	.....	3,931,800	195,450
1933	.....	.....	846,350	.....	.....	.....	.....	27,650	599,200	.....	606,050	.....	3,657,300	157,950
1934	.....	.....	943,850	.....	.....	.....	660,150	1,684,900	371,700	.....	491,100	.....	4,321,200	102,100
1935	727,150	.....	.....	.....	.....	.....	7,338,850	4,493,100	.....	402,050	.....	.....	3,928,700	.....
1936	481,450	.....	.....	.....	.....	168,150	4,952,200	3,478,150	.....	302,600	.....	.....	3,526,450	.....
First 3 mos. of 1936	160,050	.....	.....	.....	.....	.....	1,234,400	887,500	.....	92,750	.....	.....	907,150	.....
First 3 mos. of 1937	.....	.....	.....	263,550	.....	239,100	1,395,100	843,750	.....	.....	.....	.....	823,050	.....
Total to Apr. 1, 1937	1,208,600	9,309,058	10,634,850	263,550	4,004,316	407,250	14,346,300	10,527,550	16,836,850	704,650	24,028,270	25,806,804	51,039,555	10,946,880

YEAR	Fox-Bush Butler County	Geneseo Rice County	Graber McPherson County	Greenwood County	Hauschild Rice County	Hollow Harvey County	Hollow-Nikkel Harvey County	Keesling Rice County	Leon and Webster Butler County	Lorraine Ellsworth County	Nikkel Harvey County	Oxford Sumner County	Rainbow Bend Cowley County
1889–1921	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1922	704,290	.....	.....	634,162	.....	.....	.....	.....	197,068	.....	.....	.....	.....
1923	2,919,783	.....	.....	4,895,519	.....	.....	.....	.....	746,765	.....	.....	.....	.....
1924	1,987,366	.....	.....	6,716,291	.....	.....	.....	.....	242,520	.....	.....	.....	1,199,119
1925	732,943	.....	.....	9,129,190	.....	.....	.....	.....	.....	.....	.....	.....	4,591,494
1926	.....	.....	.....	13,668,890	.....	.....	.....	.....	.....	.....	.....	.....	1,608,325
1927	.....	.....	.....	13,539,105	.....	.....	.....	.....	.....	.....	.....	.....	897,925
1928	.....	.....	.....	10,303,850	.....	.....	.....	.....	.....	.....	.....	4,082,250	579,950
1929	.....	.....	.....	7,903,700	.....	.....	.....	.....	.....	.....	.....	1,703,550	387,800
1930	.....	.....	.....	6,899,163	.....	.....	.....	.....	.....	.....	.....	991,400	393,300
1931	.....	.....	.....	5,565,200	.....	.....	.....	.....	.....	.....	.....	775,200	480,400
1932	.....	.....	.....	4,761,300	.....	.....	.....	.....	.....	.....	.....	507,650	451,600
1933	.....	.....	.....	4,166,500	.....	2,938,200	.....	.....	.....	.....	1,704,300	365,100	433,050
1934	.....	.....	.....	4,389,150	.....	3,385,800	.....	.....	.....	.....	1,970,500	304,100	402,400
1935	.....	.....	.....	3,980,650	.....	1,622,850	.....	.....	.....	1,296,100	1,384,100	785,500	404,750
1936	.....	148,350	167,200	3,671,950	253,900	.....	1,490,350	710,050	.....	2,613,800	.....	1,940,550	292,450
First 3 mos. of 1936	.....	.....	.....	933,100	.....	.....	417,150	.....	.....	819,850	.....	667,950	98,750
First 3 mos. of 1937	.....	213,750	237,400	852,650	289,050	.....	337,200	192,150	.....	497,350	.....	246,450	.....
Total to Apr. 1, 1937	6,344,382	362,100	404,600	101,077,270	542,950	7,946,850	1,827,550	902,200	1,186,353	4,407,250	5,058,900	11,701,750	12,122,563

YEAR	Raymond Rice County	Ritz McPherson County	Ritz-Canton McPherson County	Russell County	Sedgwick County	Silica Rice County	Steckel-Isern Barton County	Voshell McPherson County	Wellington	Unclassified	Total Kansas (By THE OIL WEEKLY)	Total Kansas (By Government Sources)
1889–1921	.....	.....	.....	.....	.....	.....	.....	.....	.....	230,604,155	230,604,155	230,604,155
1922	.....	.....	.....	.....	.....	.....	.....	.....	.....	7,577,117	31,768,665	31,766,000
1923	.....	.....	.....	.....	.....	.....	.....	.....	.....	4,564,686	29,406,925	28,250,000
1924	.....	.....	.....	.....	.....	.....	.....	.....	.....	5,441,373	28,351,001	28,836,000
1925	.....	.....	.....	193,967	.....	.....	.....	.....	.....	9,436,101	34,497,756	38,357,000
1926	.....	.....	.....	1,851,755	.....	.....	.....	.....	.....	13,065,065	40,302,370	41,498,000
1927	.....	.....	.....	1,076,825	.....	.....	.....	.....	.....	10,644,505	40,173,015	41,069,000
1928	.....	.....	.....	1,259,850	61,500	.....	.....	.....	.....	10,146,850	38,246,850	38 596,000
1929	.....	.....	.....	1,182,950	8,723,200	.....	.....	.....	.....	11,493,470	42,027,220	42,813,000
1930	.....	.....	.....	1,203,400	7,878,300	.....	.....	3,970,200	.....	12,663,750	42,831,313	41,638,000
1931	169,400	2,667,800	.....	1,170,100	5,971,350	.....	.....	5,623,650	.....	8,633,850	39,246,050	37.018,000
1932	405,250	4,975,450	.....	1,020,050	4,560,450	.....	.....	2,650,150	.....	9,615,000	35,474,850	34,848,000
1933	642,200	7,183,950	.....	1,004,950	3,392,400	.....	.....	2,835,600	.....	11,190,000	41,750,750	41,976,000
1934	773,500	.....	4,726,150	2,592,650	2,642,700	.....	.....	2,449,050	.....	13,366,050	45,577,050	46,482,000
1935	1,036,750	.....	3,058,550	4,191,950	3,048,950	.....	321,350	1,716,400	.....	13,275,650	53,013,400	54,787,000
1936	1,114,200	.....	2,372,450	7,015,450	1,972,900	3,757,950	.....	1,125,950	.....	15,063,850	56,620,350	58,226,000
First 3 mos. of 1936	236,100	.....	654,950	1,404,350	542,700	521,750	.....	312,550	.....	3,096,150	12,987,200	.....
First 3 mos. of 1937	226,150	.....	523,850	2,210,600	433,100	1,406,050	.....	263,650	235,950	4,295,900	16,025,800	.....
Total to Apr. 1, 1937	4,367,450	14,827,200	10,681,000	25,974,497	38,684,850	5,164,000	321,350	20,634,650	235,950	391,077,372	845,917,520	.....

Kansas as a leading producing state, with crude output swelling, exists largely because of the many flush and semi-flush fields. The fields of those classifications currently are yielding 75 percent of the state's production, despite the fact they are all restricted through proration. The settled fields of the state, not affected by proration restrictions, account for the remaining 25 percent of the state's current crude output.

The latest available report of the Bureau of Mines on Kansas crude oil production showed that the state's output in February totaled 5,282,000 barrels. For the same month, the pipe line runs from flush and semi-flush fields aggregated 3,970,703 barrels, or 75 percent of the state's total production as reported by the bureau. The figure on the runs from flush and semi-flush fields is based on the latest available monthly proration report of the Kansas State Corporation Commission. These figures indicate that in February the output of the settled fields in Kansas was 1,311,297 barrels, or 25 percent of the state total.

Most Flush Fields in West

Since the flush and semi-flush fields are largely responsible for today's unprecedented and growing crude production in Kansas, it is the western portion of the state that must be credited with most of this expansion, for the newer fields are located predominantly in Western Kansas.

In fact, of all the production from flush and semi-flush fields in the state, Western Kansas is furnishing about 96 percent, while the rest of the state accounts for only 4 percent.

The above mentioned report of the Kansas State Corporation Commission, indicating that pipe line runs from flush and semi-flush fields aggregated 3,970,703 barrels in February, showed that 3,814,124 barrels, or 96 percent, was from areas in Western Kansas, while 156,579 barrels came from fields in Eastern Kansas.

Average Daily Crude Oil Production in Kansas Fields

In Week Ended April 17, 1937

Table based largely on estimates of the American Petroleum Institute

SUMMARY

DISTRICT	Daily Production (Barrels)	Percent of State Total
Western Kansas	161,750	84
Eastern Kansas	30,850	16
Total Kansas	192,600	100

DETAILS

FIELD	Daily Production (Barrels)
Western Kansas	
Bemis	3,600
Bloomer	4,050
Burrton	16,150
Chase	9,100
Geneseo	2,100
Graber	2,900
Hauschild	3,200
Hollow-Nikkel	3,800
Keesling	2,000
Lerado	2,800
Lorraine	4,850
Raymond	3,800
Ritz-Canton	5,550
Russell County	28,800
Sedgwick County	4,050
Silica-Isern	20,200
Voshell	2,900
Wellington	3,400
Western Kansas Unclassified	*38,500
Total Western Kansas	161,750
Eastern Kansas	
El Dorado-Towanda	8,950
Greenwood County	9,500
Oxford City	2,400
Eastern Kansas Unclassified	*10,000
Total Eastern Kansas	30,850
Total Kansas	192,600

* Partly estimated by The OIL WEEKLY.

Monthly Crude Oil Runs from Kansas Fields During February, 1937

SUMMARY

GROUP	February Runs (Barrels)	Percent of State Total
Flush and Semi-Flush Fields, Western Kansas	*3,814,124	72
Flush and Semi-Flush Fields, Eastern Kansas	* 156,579	3
Rest of Fields in State	†1,311,297	25
Total Kansas	‡5,282,000	100

* From Kansas State Corporation Commission Report.
† Calculated; difference between Corporation Commission's figures on flush and semi-flush fields and Bureau of Mines total production for state in February.
‡ Bureau of Mines total of Kansas crude production in February.

FLUSH AND SEMI-FLUSH FIELDS, WESTERN KANSAS

Field and County	February Runs (Barrels)	Field and County	February Runs (Barrels)
Abbyville, Reno	4,120	Karst, Russell	5,114
Ainsworth, Barton	4,745	Keesling, Rice	63,715
Albert, Barton	5,848	Kipp, Stafford	1,487
Aldrich, Ness	59	Kraus, Ellis	1,692
Alberta Johnson, Rice	10,674	Lanterman, Barton	1,261
Anschutz, Russell	2,455	Lerado, Reno	64,094
Antonino, Ellis	837	Lorraine, Ellsworth	174,361
Atherton, Russell	8,489	Marshall, Ellis	2,656
Beaver, Barton	11,952	Madden, Ellis	1,718
Bemis, Ellis	83,192	Niedenthal, Russell	12,740
Benso, Russell	681	Ochs, Russell	9,277
Berrick, Russell	2,574	Orth, Rice	7,460
Big Creek, Russell	4,244	Otis, South, Rush	8,677
Bloomer, Barton	91,454	Pawnee Rock, Pawnee	58
Boxberger, Russell	3,702	Peter, Barton	44,699
Brandenstein, Rice	2,841	Peterson, Russell	1,218
Breford, Ellsworth	7,115	Ploog, Rice	13,860
Breford, South, Ellsworth	3,841	Raymond, Rice	75,798
Bunker Hill, Russell	2,186	Richardson, Stafford	52,834
Burrton, Reno	435,116	Rick, Barton	7,726
Caldwell, Sumner	4,119	Rickard, Rice	967
Canton, North, McPherson	1,451	Ritz, McPherson	150,271
Catherine, Ellis	1,736	Ruder, Ellis	20,297
Chase, Rice	281,484	Russell, Russell	73,564
Chindberg, McPherson	3,198	St. John, Stafford	4,604
Coralena, Russell	446	Saxman, Rice	6,941
Cunningham, Kingman	19,179	Schowalter, Harvey	2,868
Donovan, Russell	328	Sellens, Russell	28,499
Dopita, Rooks	192	Schartz, Rice	32,350
Doran, Siliceous, Rice	4,887	Shutts, Ellis	10,151
Dubuque, Russell	4,005	Silica, Rice	499,950
Dumler, Russell	3,984	Snider, Stafford	5,737
Eberhardt, Barton	3,987	Soeken, Rice	1,054
Edwards, Rice	38,535	Solomon, Ellis	4,865
Ehly, Barton	204	Sperling, Harvey	830
Eichman, Russell	13,345	Steinert, Russell	1,464
Ellinwood, Barton	18,970	Stoltenberg, Ellis	13,935
Empire, Rice	7,294	Stratmann, Ellsworth	9,889
Fairport, Russell	70,101	Stumps, Rice	15,383
Faubin, Rooks	3,002	Sullivan, Russell	120,308
Feist, Barton	1,021	Susank, Barton	1,994
Gates, Stafford	4,762	Thompson, Ness	931
Geneseo, Rice	63,197	Theede, Rice	13,031
Gorham, Russell	114,751	Trapp, Russell	160,809
Graber, McPherson	101,925	Ubert, Ellis	561
Guldner, Rice	4,635	Victoria, Ellis	2,175
Gurney, Russell	17,326	Voshell, McPherson	80,531
Haferman, Rice	12,664	Wakeeney, Trego	8,337
Hall, Russell	25,399	Walter, Ellis	2,552
Haller, Ellis	199	Welch, Rice	15,623
Halstead, Harvey	43,477	Wellington, Sumner	83,921
Harbaugh, Russell	30,447	Wenke, Rice	6,004
Haury, Reno	16,023	Westhusin, Rooks	1,536
Hauschild, Rice	84,389	Whelan, Barber	3,722
Heiken, Ellsworth	2,183	Wherry, Rice	5,580
Hilger, Reno	45,670	Wilkins, Ellsworth	1,624
Hiss, Barton	8,917	Winget, Rush	2,865
Holcomb, Trego	2,197	Williamson, Russell	857
Hollow-Nikkel, Harvey	107,766	Zurich, Rooks	3,773
Johnson, McPherson	9,806	Total	3,814,124

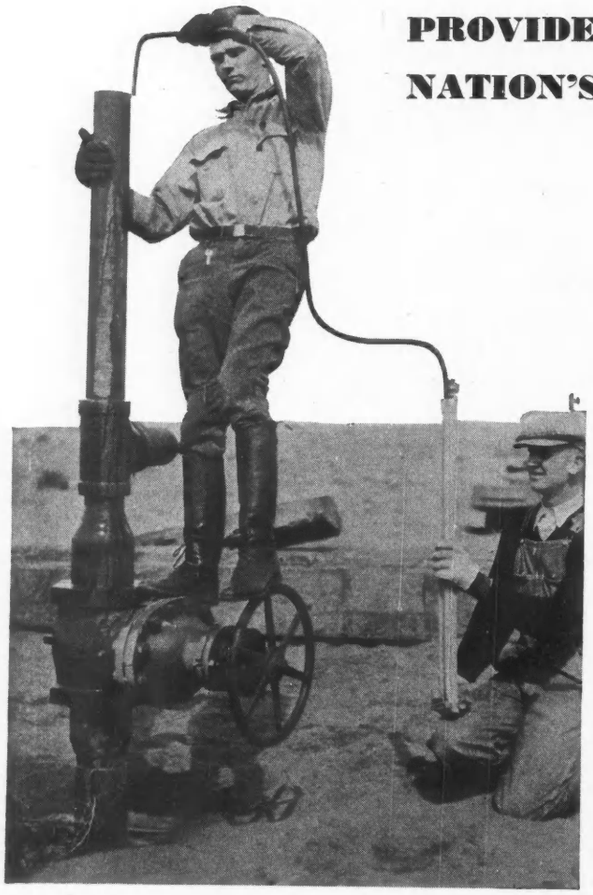
FLUSH AND SEMI-FLUSH FIELDS, EASTERN KANSAS

Field and County	February Runs (Barrels)	Field and County	February Runs (Barrels)
Brandt, Butler	374	Murphy, Cowley	3,942
David, Cowley	8,094	Oxford, Sumner	36,969
Frog Hollow, Cowley	2,713	Rutter, Sumner	280
Geuda Springs, Cowley	1,704	Sherwood, Cowley	943
Goodrich, Sedgwick	11,523	Trees, Cowley	8,879
Greenwich, Sedgwick	47,866	Weathered, Cowley	21,944
Hillsboro, Marion	7,695	Total	156,579
McCullough, Butler	3,653		

Hugoton Gas Area

PROVIDES KANSAS WITH ONE OF THE NATION'S GREATEST GAS RESERVES

By FRANK B. TAYLOR, District Editor



Open flow gauging of gas wells in Hugoton area. The manifold above the master gate is removed and a nipple is set into the gate. The well is opened and after the flow of gas has reduced to a constant rate a tube of small diameter piping is held into the stream of gas. The tubing, by means of a rubber hose, allows the pressure to exert itself on the mercury manometer held by the man kneeling. By reading the manometer scale, generally graduated in inches, the output of the well is calculated. The dark fluid on the pipe and fittings is water from the pay stratum.

FROM the time Hugoton gas field of southwestern Kansas became commercially active in 1929, development of the reserve has been in direct relation to the nation's industrial activity. From 1930 to 1936, expansion programs were limited in the field, and although few leases were relinquished, previous drilling had established production sufficient to supply the needs of the various pipe line companies transmitting from the area. Drilling was only done under previous contract, or to cure accumulated acreage. Today the picture has been changed.

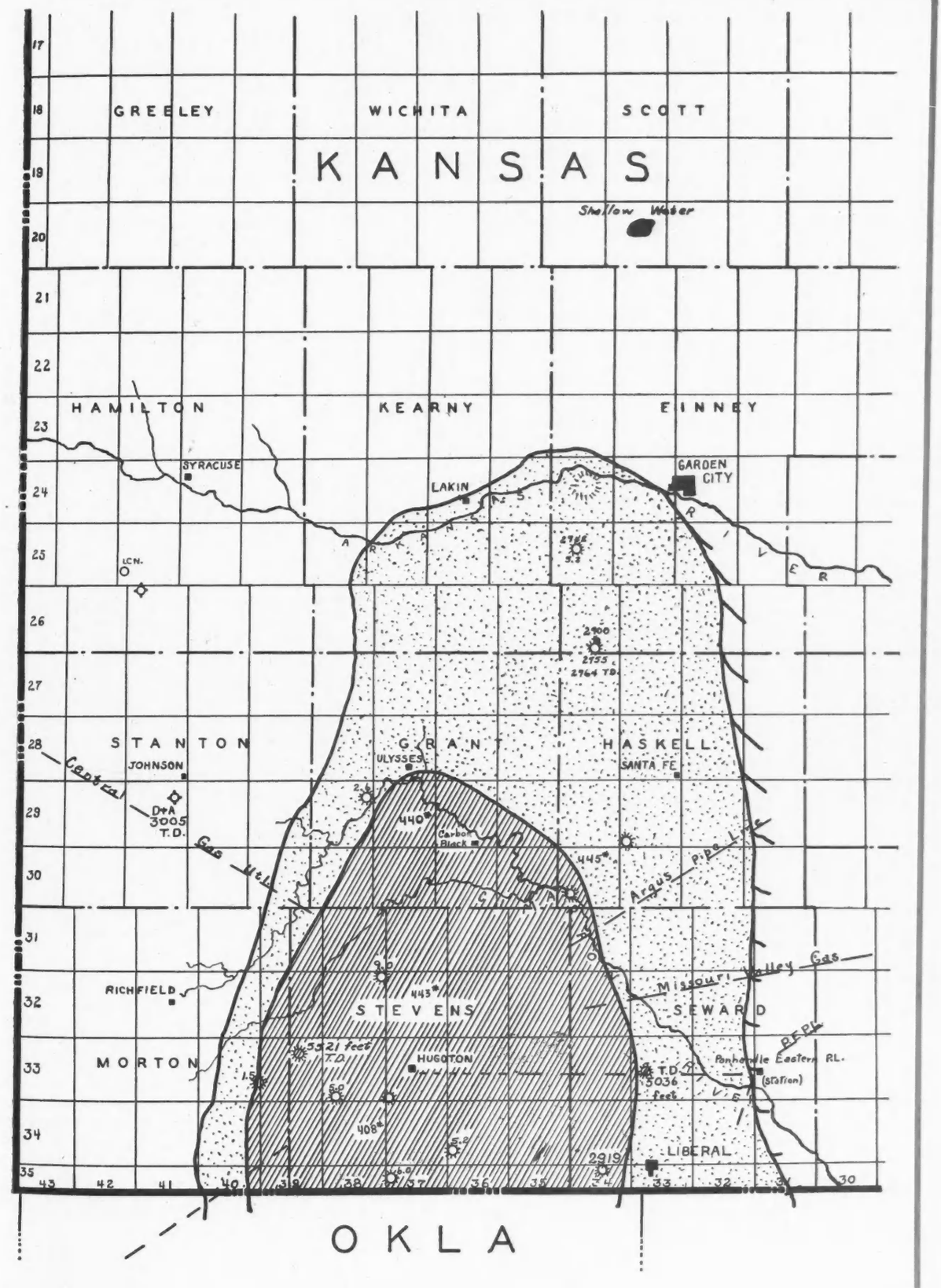
With increased demands for gas in industrial centers, as well as increased domestic consumer volumes, gas companies in the Hugoton area are in the midst of an expansion program. Lines have been increased in capacity, and further expansion work is in prospect. Five wells are being drilled, and it is expected that not less than 45 operations will be completed before fall. Station equipment is being added to compressor and natural gasoline plants in the field and on transmission lines, and wells which have a reduced production through natural causes are being cleaned out and reconnected.

There are about 180 wells completed in the area, all being productive of gas. So far, there has been no failure completed in the proven area. Total openflow is estimated at 972 million cubic feet; an average of 5.4 million cubic feet per well. The size of wells range from a minimum of 1 million, to a maximum of 18 million cubic feet, the largest well completed to date. Major production apparently centers in Stevens County although wells of better than the average openflow have

THE MAP

Nine counties of southwest Kansas showing gas productive area now included in the Hugoton field, as indicated by present development. Adjacent locations of importance are included as well as nearest oil production in Shallow Water pool of Scott County, and a location that will be closely followed in southern Hamilton County recently staked on a Cretaceous structure.

The primary zone of gas production, centering in Stevens County, is shaded on the map; the secondary zone being undeveloped but not necessarily consisting of minor production. Important wells in the field are shown, present open-flow capacities being indicated in millions of cubic feet. Depths, where of relative notice, are shown adjacent each well. Two deep tests drilled through the gas strata are marked with cross lines.


GREELEY
WICHITA
SCOTT
KANSAS
Shallow Water
HAMILTON
KEARNY
FINNEY
SYRACUSE
LAKIN
GARDEN CITY
ARKANSAS RIVER
LCN.
2765
2700
2755
2764 TD.
STANTON
GRANT
HASKELL
JOHNSON
ULYSSES
SANTA FE
Central
D+A
3005
T.D.
440
Carbon Black
445*
Gas Util.
Argus
P.P.L.
RICHFIELD
443*
STEVENS
SEWARD
Missouri Valley Gas
3321 feet
T.D.
HUGOTON
MORTON
T.D.
5036
feet
Panhandle Eastern R.R.
(Station)
408*
2919
LIBERAL
OKLA

been completed in Finney, Grant, Haskell and Morton Counties.

Discovery Data

The first well drilled in what is now the proven area production, was Defender Petroleum Gas Company's Boles 1, NE NW 3-35s-34w, just north of the Oklahoma state line in Seward County. This well was completed in July, 1920, for Traders Oil Corporation at 2919 feet in blue shale. The test was for oil and was unsuccessful in this respect although gas was proven from "broken lime" near 2800 feet. The log of this well makes no effort to correlate strata to any formation of age. No effort was made to produce the gas found in Boles 1 with completion and the hole stood for some years before being obtained by Liberal Gas Company. After cleaning out, gas from the well was piped to Liberal for domestic use. Three additional wells have since been drilled by Liberal Gas Company to augment the initial supply. Production was never at a maximum from the purchased well, but it is thought from data obtained in subsequently drilled wells in the immediate area that production from the discovery did not exceed 2,000,000 cubic feet per day.

Six years after completion of Boles 1, a well was spudded in C SW 31-33s-37w, 4 miles southwest of the present town of Hugoton and 25 miles west and slightly north of Boles 1, near Liberal. This well, Indiana Oil & Gas Company's Crawford 1, was started February 12, 1926 but was not completed until August 30, 1927. First gas was encountered at 2630 feet, and a large increase was noted at 2800 feet.

Drilled primarily for oil, the hole was carried to 3502 feet without encountering either a show of oil or additional gas volume. From this depth it was plugged back and completed as a gasser. Development of the present area centered around this well. It has received credit for being the discovery well of the field. It did not become apparent until some years later that the location was made on the same geological condition responsible for the production near Liberal. In truth, it seems that both these wells should be considered as discovery wells, with honors evenly divided.

Geology and Factors Limiting Production

Hugoton gas field is a monocline with production coming from three major strata of the Big Blue series of Permian age. Herington lime of the Nolans formation is the first gas producing pay to be penetrated, this being topped by red rock about 300 feet in average thickness. The Winfield group is productive from either of 2 lime strata, and frequently from both. Fort Riley limestone provides the deeper pay, this stratum being the top of the Barneston group. Only occasionally has any gas been encountered below this horizon.

These strata lie at depths varying from 2580 to 2860 feet. They are highly irregular in thickness and comformity and there is considerable evidence to support the theory that the pay strata are inter-connected. In proof of this, operations have found two or three of the pay strata at one location, and only three at an adjoining location. Rock pressure of all pay streaks is the same, and with pressure drop following sustained production, the rock pressures of adjacent wells show a proportional drop. Such would not occur if the strata were entirely individual and without permeable connections, for if such were the case pressures of adjoining wells would rock up to the highest pressure present in a single pay. Impervious streaks in the laminations are shown to be variable in thickness and lacking in a uniformity necessary to serve as a pressure reserve.

There is apparently only a slight difference in the texture of the productive strata. Each is a lime; dolomitic to varying degrees, but in no instance where productive has the pay been found to be a true dolomite. Average porosity of the formations has been calculated at from 14 to 24, with 18 to 20 percent probably being nearer correct than either of the two extreme figures. Much of the available gas is contained in the lime to shale or lime-anhydrite contacts, or within top chert. As porosity is comparatively high in such cases, the calculations of reserves have been based upon 21 percent porosity for the shaded sections of production (see map) and 18 percent for the outlying sections.

The general trend of the monoclinic beds productive of gas in the area is slightly east of north, and west of south. The productive area extends well into Oklahoma, and there is no reason to differentiate this gas area from that of the Texas Panhandle in the vicinity of Hutchinson and Moore Counties. Certain pecularities would indicate a direct connection between the two areas now under production, chief among which is the similarity of original rock pressures. Pressure in lime areas of the Texas Panhandle gauged about 420 to 445 pounds per square inch, a pressure corresponding to that found in outlying wells in the Hugoton area. To make this pressure factor of more direct comparative importance is the fact that it is an unusual value for that depth, far below what would normally be expected. The pressure existing is not hydrostatic, and there is no indication that production will be limited by edge water. Another fact that would naturally lead to the conclusion that the areas are directly connected, is that the productive horizons are the same. Checks of Dolomite from Texas have shown it to be parallel in characteristics to the Ft. Riley lime of Kansas. Also, approximately midway between Moore County, Texas, and Kansas production, gas production has been proven from the same formation at depths equivalent to Kansas and Texas. Rock pressure was found to correspond to nearby pressures. That the theory of a common source has much factual evidence as support is readily admitted and it is reasonable to expect joining of the areas with future expansion of the two areas now being exploited.

Admitting an extension southward from Hugoton, there is still the unusual pressure to be explained. One engineer has propounded the theory of a common source of accumulation, with the Borger area as the probable origin. This explanation accounts for the pressure by considering the fracture of a normal reservoir, and the expansion of the gas to lower pressures by occupying greater pore space in permeable strata; which in this case is the dolomitic limes. This theory would also account for the fact that there is no sour gas in Kansas by assuming that the migration of the gas through the formations would exert a "scrubbing" tendency to reduce or eliminate hydrogen sulphide. By the same reason it might be assumed that certain conditions would reduce gravity of gas in edge areas of production by scrubbing out some of the heavier fractions.

In making estimates of probable ultimate limits of commercial production it is necessary to picture the porosity as fingering out to the west edge, which is well defined, and in all probability edging out to the east in the same, although not quite so abrupt, manner. There is a slight normal dip of reservoir rock to the east, but as no water has been encountered which can be classified as related to a water table, an eastern edge-out into water is not to be expected. To the north edge of production extending into Kearny and Finney counties, there has been no drilling to define the edge although the

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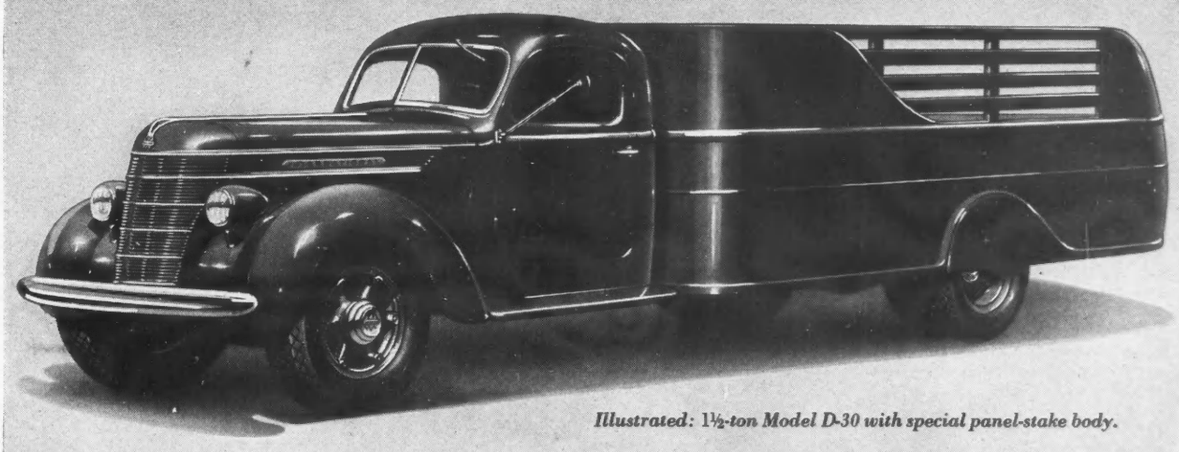

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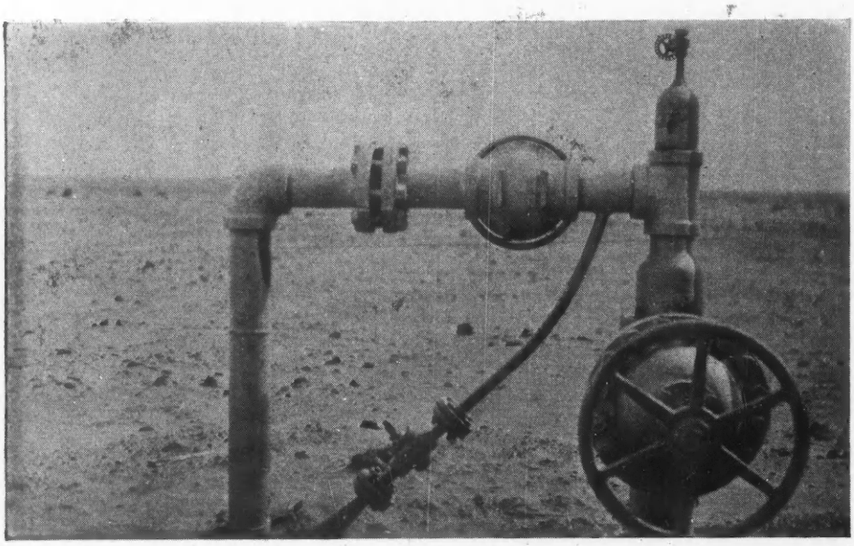

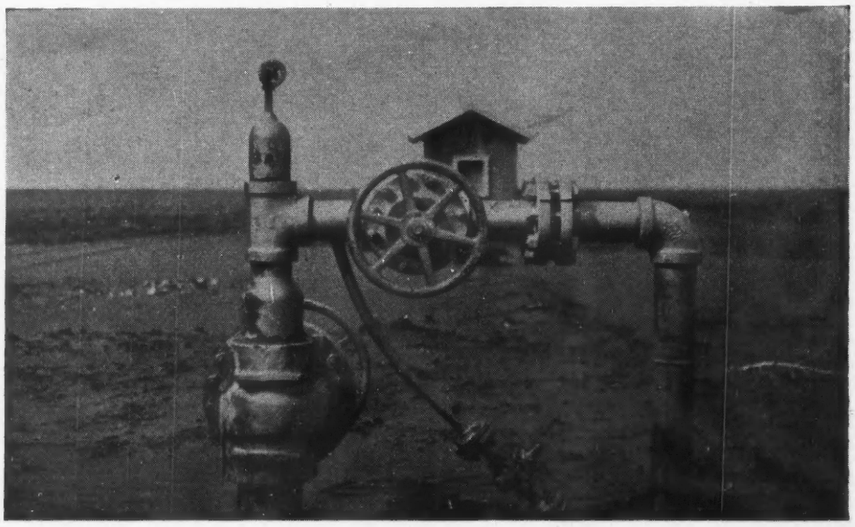

Two views showing simple well-head connections customary in the Hugoton gas area. Production volumes are controlled through the plug valve on the by-pass. Gas enters the lateral through the long swedged nipple. Well connections are either four- or six-inch, dependent upon the size of the well. The Christmas tree shown is on a well completed late in 1936 and which gauged the largest in the field with an open flow of 18,000,000 cubic feet.

general opinion would place the limit of commercial production in a curve following the course of Arkansas River.

Deep Tests

Two tests have been drilled to depths considerably below the Big Blue series in which the gas is found. The most widely known of these is commonly referred to as the Mystery well. Data on the strata is not generally available, and this has led a few parties to conclude that oil was encountered. It is doubtful if there is any other basis for this rumor, as a study of samples from nearby wells does not indicate that a subsurface high exists at the location; a feature necessary to accumulation. It is understood that the well, Argus Producing Company's Christopher 2, 10-33s-39w, reached 5521 feet, near the top of the Mississippi, and that it was shut down June 24, 1931. The well was later to be plugged back to the gas at higher levels.

M. S. Wilson drilled a test 9 miles north of Liberal, in Section 14-33s-33w, west central Seward County. This test went to 5036 feet, where it was abandoned during November, 1928. No live oil was found in this test, which is still able to produce gas from upper strata.

From all indications there is no reason that would encourage deep drilling for oil. The numerous wells already completed to 2700 feet are an excellent reference to prove a monoclinic reservoir, void of all normal oil accumulative folds or anticlinal features. If more widespread development shows structures enclosed on subsurface elevations, or major unconformity, or granite ridge, then these will undoubtedly be prospected for oil. Such have not been recognized at this time.

Gas Reserve and Gas Withdrawn from Storage

For the purpose of calculating reserves of Hugoton field, it was believed that the most accurate results would be obtained by considering the field as segregated into sections of varying porosity. The shaded section of the map was given a porosity value of 21 percent; this figure being applicable to the 691,000 acres enclosed. Eighty percent of the greater area, 968,000 acres, was given a porosity factor of 18 percent. An additional 100,000 acres were considered at a porosity of 6 percent, this area being non-commercial in individual well productivity, but having the ability and function of supplying nearby locations with prolonged decreases in rock pressure following production from edge wells.

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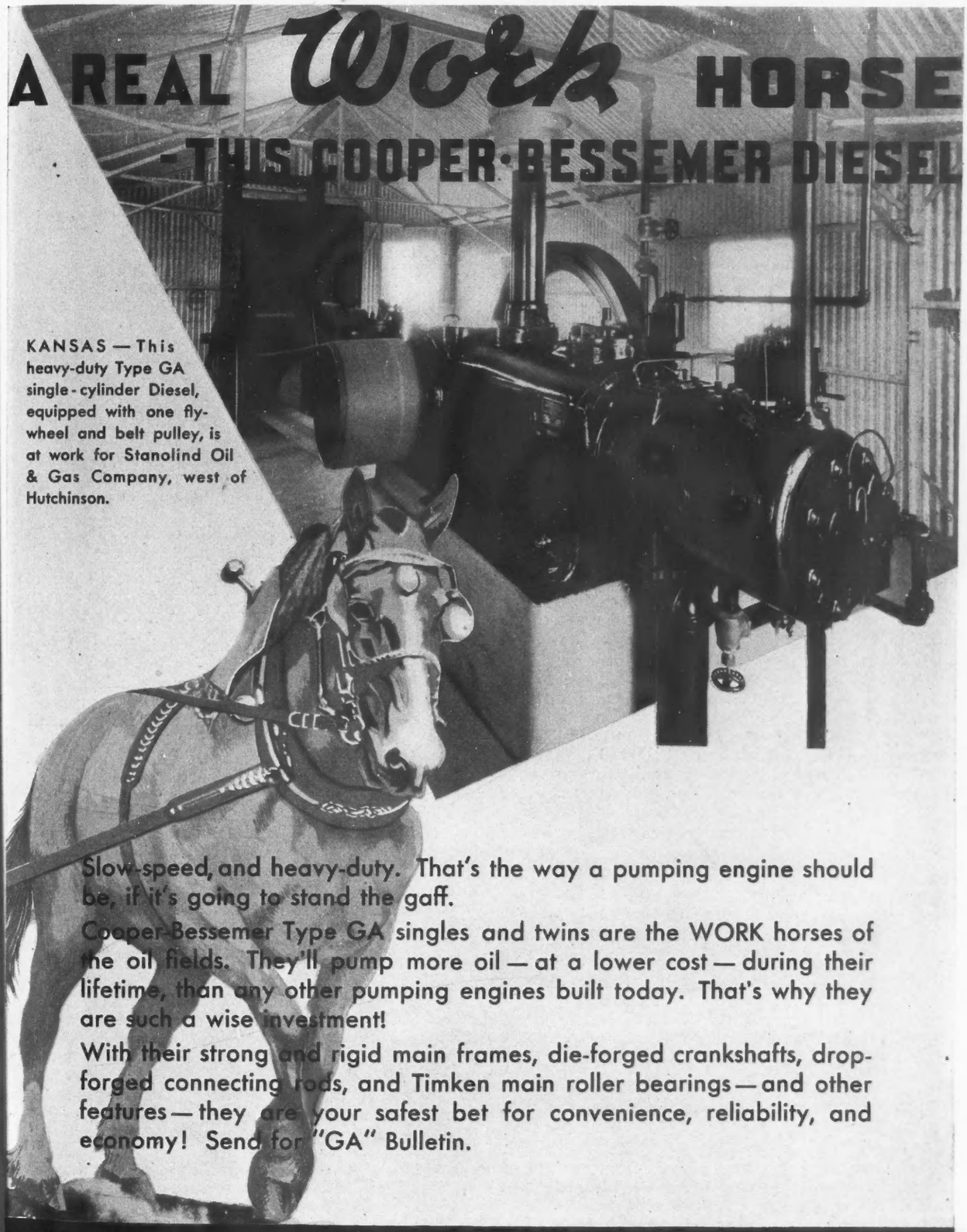

KANSAS — This heavy-duty Type GA single-cylinder Diesel, equipped with one flywheel and belt pulley, is at work for Stanolind Oil & Gas Company, west of Hutchinson.

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Pressure base used in the estimates was 16.4 pounds per square inch, absolute. No attempt was made to correct for gravity or temperature. Pressures within the limits of present major production were considered as equalling an average of 420 pounds per square inch, somewhat higher than the minimum present pressure but below the maximum to be found near the edge of the area. An average rock pressure of 445 pounds was used in figuring the reserve of the outlying area.

For the more highly developed portion of the field, the productive thickness of the strata has been estimated at 50 feet. Outlying sections are averaged upon a basis of 35 feet, and extreme edge production in the 100,000 acres limiting section has been calculated upon the basis of only 10 feet of productive horizon. It was deemed desirable to follow this method of calculation rather than to attempt to base a reserve upon the ability of a well to produce, as productivity is a factor of permeability and not of the gas held in storage.

Upon this basis, and using the factors as established, the shaded section of the field contains a total of 8292 million cubic feet of gas. The outlying zone contains 7436 million cubic feet of gas, and the edge or non-commercial section contains approximately 720 million cubic feet of gas. For the heavily developed area this estimate establishes a present reserve of 12,000,000 cubic feet per acre; for the outlying zone a per-acre reserve of 7682 million cubic feet, and about 720,000 cubic feet per acre for the non-commercial edge zone. For the entire field, limited to that portion of production within the limits of Kansas, the total present reserve is assumed from these calculations to be 15,736 million cubic feet; or a little less than 16 trillion cubic feet for the entire total area of about 2600 square miles.

With acknowledgement that the gas area extends beyond the limits of present development, the comparatively slight drop in rock pressures known to have occurred, are readily explained by migration to areas of lesser pressure. In all, the total volume of gas produced to January 1, 1937, is only about 105,000,000,000 cubic feet, which could not greatly lower the pressure over an area equalling that from which production is being obtained.

Gas Characteristics

All gas found in the field is sweet, no trace of sulphur having been detected. A number of hydrogen-sulphide tests have been made both in the field and in laboratory samples, so far with negative results. Analysis of a number of samples from different sections of the field show an average composition as follows:

	Percent
Methane	68.01
Ethane	18.48
Butane and higher	1.46
Oxygen	.2 (?)
Carbon Dioxide	.1
Nitrogen	11.75
	100

The determined gravities of gases from sections of the field average .72. The B.t.u. value is from 1010 to 1100. Both of these figures vary with the area from which the samples are taken. The same is true of the gasoline content of the gas, which is about 4.2 gallons per 1000 cubic feet. Not so exact determinations have been made of gas produced from wells in the secondary zone, and it is impossible to form a general idea of variations from the above in composition. Further extension of production is necessary before variations from the above composition of the gas is evident in Haskell, Kearny and Finney counties.

Drilling and Completion Practices

Drilling in Hugoton is almost entirely with rotary equipment. The majority of wells are by contract, although some operations have been by company-owned equipment and crews. Steam is standard equipment, and fuel is purchased from some well or line in the area. Water for drilling purposes is obtained from gravel strata at 280 to 320 feet, this strata being of wide occurrence throughout the area and containing a plentiful supply to satisfy all ordinary drilling requirements. Water is produced by jetting through a 3-inch tubing, gas being introduced into the lowered end of the tubing by a parallel piece of ⅜- or ¼-inch tubing. Six and five eighths-inch casing is customarily used in water wells.

From spudding, from 24 to 48 hours are generally required to set surface casing. Seven to 10 days are required to carry the hole to a casing spot above the gas pay. Drilling in time is from 4 to 10 days, dependent upon time required to change from rotary to cable tool equipment, and condition of the gas-bearing strata. Completion is with either a heavy duty, portable, cable tool machine moved over the hole, or by a cable tool front moved into the rig. Total drilling time is around 18 days.

Spot for surface pipe is found between 550 and 600 feet in red beds. Ten and three quarter-inch is set into this formation and cemented with about 75 to 100 sacks. A production string of 7-inch, usually of 22-pound, is cemented with about 100 sacks of cement at from 2450 to 2635 feet.

West of Hugoton the top gas pay is had at about 2500 to 2700 feet, on the east side the same pay is found at 2600 to 2750 feet, on the north side the pay is around 2500 to 2650, and along the Oklahoma Panhandle line the pay is at 2670 to 2820 feet. General elevation of the productive area is 3150 feet, with a slight rise to the west and north.

Considerable difficulty has been experenced in drilling some wells in the Hugoton area through loss of circulation in unusually porous strata at about 1400 feet. Large volumes of cement, mud, hulls and other materials have been pumped into wells without regaining circulation. In a few instances wells were continued to gas pay by dry-drilling, at other times holes were lost and it was necessary to skid to a new location. For the most part, drilling is through comparatively soft formations of gravel, shale, sand streaks and anhydrite.

Following continued production from wells, it is often advisable to go into the hole with cable equipment and clean out. Certain cavings from within the gas strata collect in the hole and practically stop the free flow of the gas. Water that accumulates in the hole bottom, a condition that is localized to certain wells, may effect a considerable reduction of the well's capacity to produce by mudding off the faces of the pay laminations; or by intrusion into pores to reduce the permeability of the strata adjacent to the well.

Cleaning out is done with portable equipment that is moved to wells showing abnormal drop in volumes productive. Well-head equipment is removed and the clean-out is accomplished in a day or two.

There have been interesting tests made to increase the natural productivity of the horizons by shooting and by treating. Attempts to treat have not been as encouraging as was anticipated, most probably because of the dolomitic character of the lime. Customary lime, as is found in the oil fields of western Kansas, is far more readily attacked by chemical reaction than is dolomite, or lime

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of a dolomitic character. Moreover, in the case of Hugoton field, the pay is so laminated that it might be necessary to treat 75 feet of productive zone to catch one pay of one to two feet in thickness.

A well in the Hickok area, seven miles southeast of Ulysses, Grant County, was shot with 188 quarts from 2603 to 2744 feet. The original open flow of this well was 5,700,000 cubic feet. A gauge taken after the shot proved the productivity of the well had increased to 11,500,000 cubic feet, just doubling the initial production capacity.

Production is obtained ratably by the various operating companies, production being measured by orifice meter installations set up within a few yards of each individual well. Volumes bled into field lines is controlled by cracking plug valves, or if the volume is approximately that of the well to produce, a 4- or 6-inch gate on the main line can be opened. Expansion of gas produced is controlled through a long nipple, swedged from end to end and welded into the production by-pass on the well-head setup. Regular inspections are made of surface equipment at wells, and meters are checked regularly while the connected well is turned into the line. Field and production practice of operating companies has made for unusually good control of output and established consistent accuracy in gas measurement.

Established Outlets

Panhandle Eastern Pipe Line Company, taking gas from about 28 of its wells and also being connected to production of Benedum Trees, Pioneer Petroleum Company, United Producing Company, W. L. Sidwell, and Kuhn Brothers, produces from a total of about 50 wells. Gas is transported through 4- to 10-inch field gathering lines to the company's 16-inch main lateral through central Stevens County to the compressor station 14 miles east of Liberal. At the plant, the gas is processed and water vapor is removed in a dehydration unit, and natural gasoline is removed at the gasoline plant recently constructed in conjunction with the compressor station.

Missouri Valley Gas Corporation produces from about 92 wells in the field, production being gathered in a 144-mile, 14-inch loop system. Natural gasoline is removed at a plant a few miles east of Hugoton, in the field, where delivery is made to Northern Natural Gas Company's 20-inch line to Mullinsville station.

Central Gas Utilities, formerly Colorado Gas Utilities, of Abilene, Kansas, has an 8-inch line from wells in Sections 22 and 27-31s-38w. Distribution is made in Lamar, Colorado, and intermediate points.

Argus Pipe Line Company has 13 wells connected into a double system extending northeast to Dodge City and vicinity and to the southwest into Oklahoma. The Dodge City line is 8-inch, the line southwest is 4-inch.

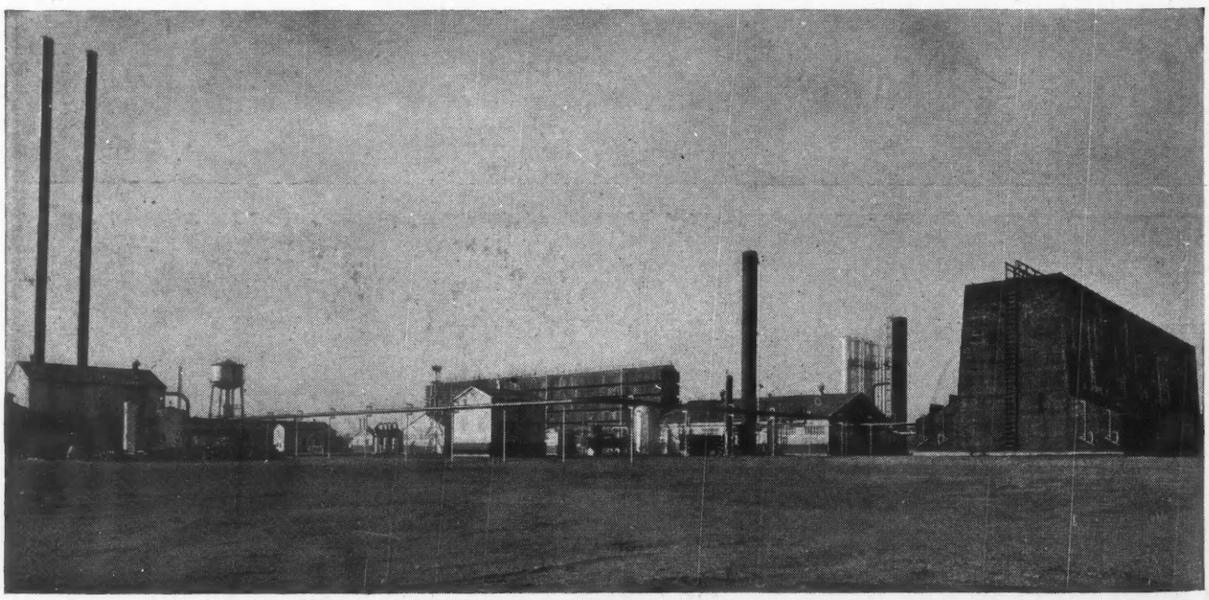
Liberal Gas Company is delivering gas to the named town from 4 wells 7 miles west of town. There are no other connections to this system and none proposed.

Columbian Carbon Company is operating a recently completed black plant a few miles east of Hickok, Grant County. Gas is being withdrawn from one well to supply the 6-burner plant. Approximately ¾ to one million feet are consumed during a 24-hour period of operation.

General

An increase of activity, surpassing development of the past 4 years, is confidently expected for this year. Reports indicate further extensions are planned for present gathering systems. The natural gasoline plant of Missouri Valley Gas Corporation is being enlarged at this time, and the present total open flow of the field is being increased by drilling. It is reported that Columbian Fuel Company plans 8 wells for this season, United Production Company 10, Panhandle Eastern Pipe Line Company 18-20, Kuhn Brothers 6, and W. L. Sidwell Oil & Gas Company 4. A number of interests have assembled and drilled valuable acreage that is not yet connected to lines. It is to be expected that development will tend toward proven sections of the field, and will result in major northeast extensions to present gathering systems.

Compressor station and natural gasoline plant of Panhandle-Eastern Pipe Line Company, located 14 miles east of Liberal, Seward County, southwest Kansas. A gas dehydration plant is part of this major installation on the company's 24-inch main line just east of the junction of the Texas Panhandle and the Hugoton field main laterals. A 4-unit compressor station was the first construction on the site, in 1930. Another unit of 1,000 horsepower, similar to those already installed, was added soon after. This late view shows the plant as it appears with latest additions.



RECOVERY

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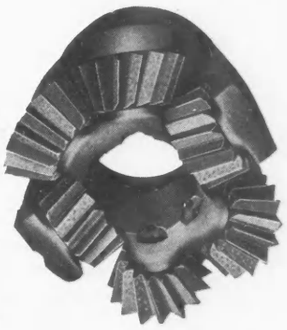

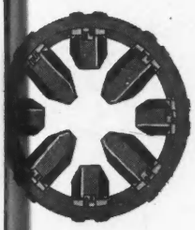

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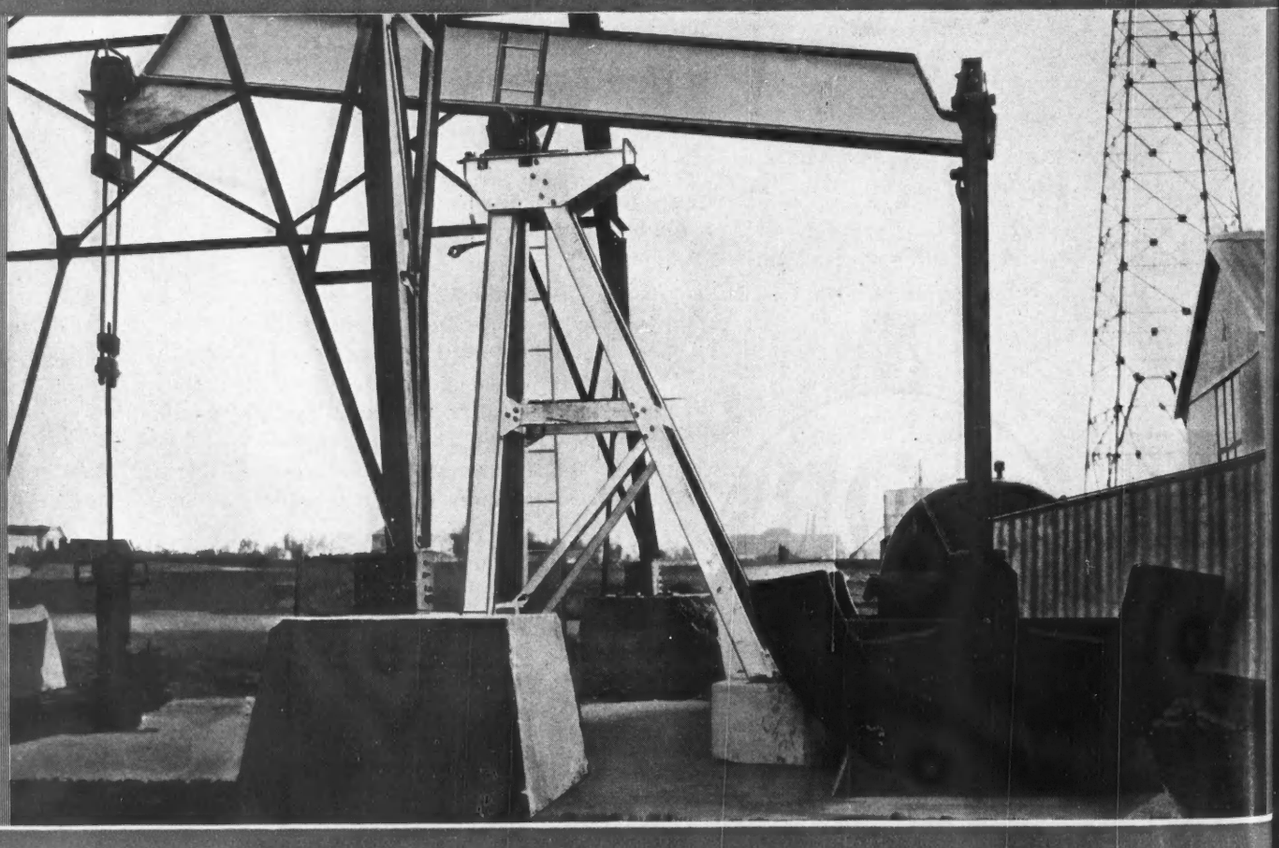

1936 Kansas Development

A brief of this article was presented before the annual meeting of the American Association of Petroleum Geologists, Los Angeles, California, March 18, 1937.

ACTIVE EXPLOITATION WORK RESULTED IN DISCOVERY OF 54 NEW FIELDS

By GEORGE W. BAUGHMAN, Assistant Geologist, Phillips Petroleum Company
and MARVIN LEE, Consulting Geologist

WESTERN Kansas probably received more widespread attention during 1936 than in any previous year. As indicated by an accompanying map, seismographs and core drills were quite active. The enclosed dotted areas indicate regions in which seismographs were used and the shaded areas showed core drills. Crosses on the map indicate areas of active leasing.

Seismograph prospected 3½ million acres at an estimated cost of $650,000.

Core drills covered nearly a million acres (903,000) at a cost of approximately $250,000.

Discovery Methods

Seismograph work accounted for approximately 13 percent of discoveries.

Core drill work accounted for approximately 18 percent of discoveries.

Surface work accounted for approximately 16 per cent of discoveries.

Wildcat work accounted for approximately 18 percent of discoveries.

Subsurface work accounted for approximately 35 percent of discoveries.

In general the play in Kansas followed exploration work of 1936 and covers approximately the same areas. The most notable departures from this customary routine making itself evident in Clark County and in southern Hamilton County. Both these areas having been heavily checkerboarded and blocked before any appreciable amount of exploratory work had been done. With the exception of Ellis County, areas in which an active drilling campaign has been carried on, were leased prior to 1936.

Ellis County has been the promoters paradise of Kansas during the past year. Of 33 wildcat tests started, 12 have been completed as producers with a total initial potential of 7,000 barrels per day. Only the Bemis pool, however, has been developed to any extent, the present potential being 52,000 barrels per day. Discoveries were more or less evenly divided between surface, core drill and subsurface, with seismograph wildcat prospects trailing. Producing horizons include Pennsylvanian (Topeka and Lansing-Kansas City limes), Cambro-Ordovician (Arbuckle Dolomite and Cambrian Basal Standstone).

In far western Kansas seismographs have been active in the areas indicated and extensive checkerboard and numerous blocks have been taken in Logan, Wichita, Scott and Kearny counties. Late in 1935 one wildcat was drilled in 15s-33w, Logan County, on a large Cretaceous surface structure. The test was probably higher than normal on the base Pennsylvanian, but had only one small show in the Topeka to Lansing-Kansas City section. A wildcat is being drilled in 16s-28w, Lane County, which is high on the base of Pennsylvanian. These tests and other dry holes give enough control to establish a possible subsurface high in the region of the Gove-Lane County line in an area which has been generally thought to be rather low structurally.

The southern Hamilton County play is located on the reversal of the north dipping Cretaceous rocks, and is characterized by one large lease block and heavy checkerboard by several companies. Some seismograph work has been done with a location having been made and another proposed test rumored to start this spring.

Clark County Active

Clark County has been the scene of the hottest and fastest play Kansas has witnessed. It started in the middle of November, after the completion of Morrison 3 for 2356 barrels and at present includes all available acreage in Clark, southeast Ford, western Kiowa, western Comanche counties, Kansas, and Harper County, Oklahoma. The discovery well was drilled offsetting an abandoned Mississippi lime gas well, and is producing from Viola at 6475 feet. Since the lease play, seismographs and core drills have moved into the area. Located as it is on the north

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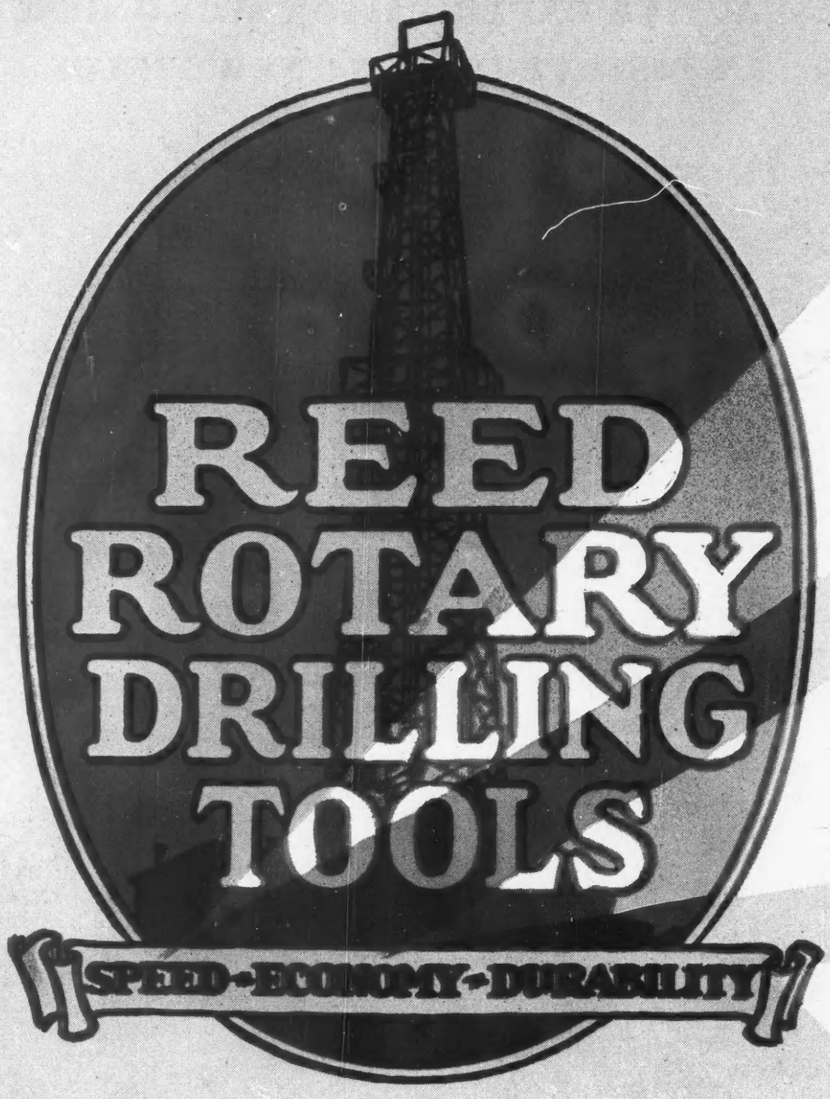

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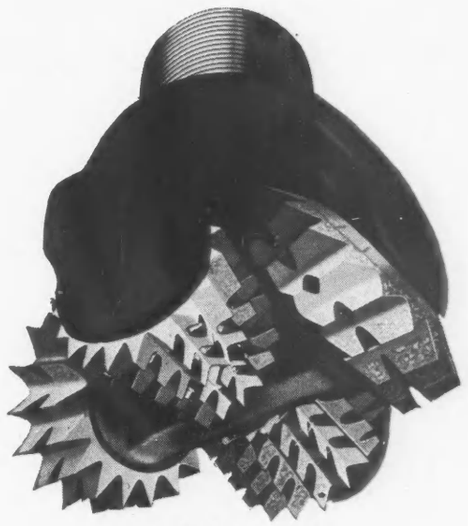
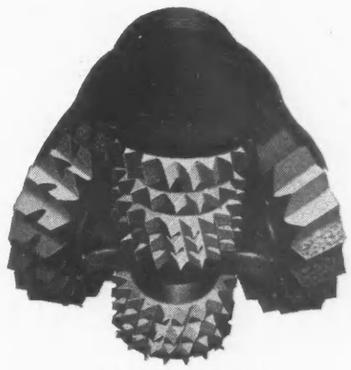


REED DK-2



REED DK-3

flank of the Anadarko basin this wildcat opens a large area to prospecting.

The area of the Central-Kansas Uplift has received a steady play during the past year, with the majority of 1936 discoveries to its credit. Western Reno has received an extensive play on core drill work. Pawnee and Edwards counties have been heavily checkerboarded and blocked on seismograph and core drill. Western Barber, Sumner and Harper counties have received a great deal of attention from several companies. Heavy checkerboard and several blocks have been taken in the southwestern gas area by gas companies and carbon companies.

Eastern Kansas had four or five discoveries in (one Bartlesville discovery as per N. W. Bass[1]) theoretical shore line bars.

Repressuring and water flooding of old sand trends is becoming more active in eastern Kansas.

Acreage Under Lease

The major companies held approximately 5,800,000 acres of undeveloped leases as of January 1, 1937.

Acreage under lease in Nebraska is variously estimated at 1,500,000 to 2,000,000 acres; concentrated more or less on and flanking a hypothetical continuation of the Central-Kansas Uplift to Chadron Dome. The area of leasing is located in west central Nebraska. Seismographs have been active. One dry hole was drilled in northern Grant County which reached granite at 4036 feet.

[1] U. S. Geological Survey.

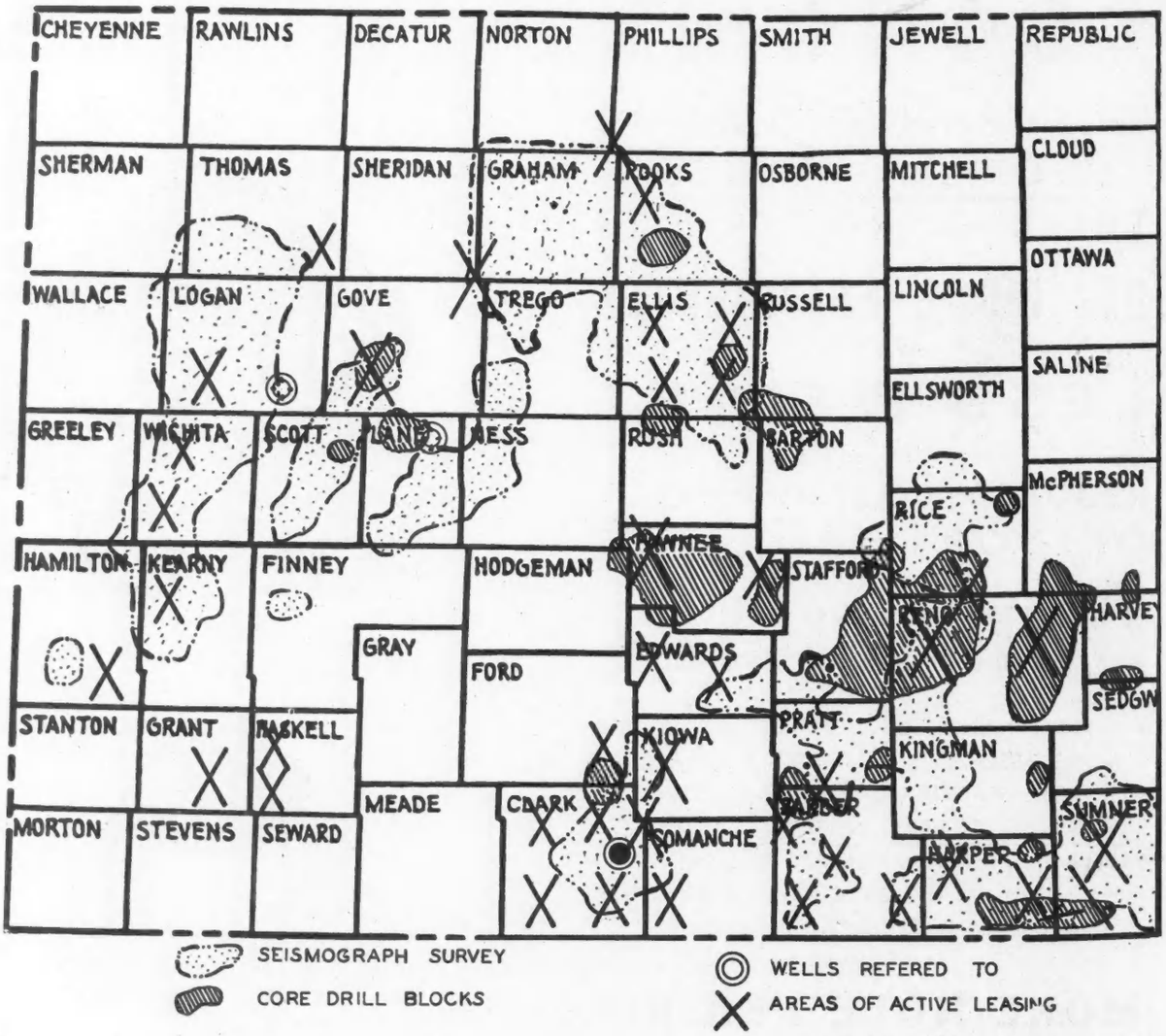
PRODUCTION SUMMARY

Total 1936 production	57,102,123
Monthly average	475,510
Daily average	156,017
Production from new fields	2,475,776
Monthly average	206,315
Daily average	6,764
Production from new fields, percent of total	4.34%

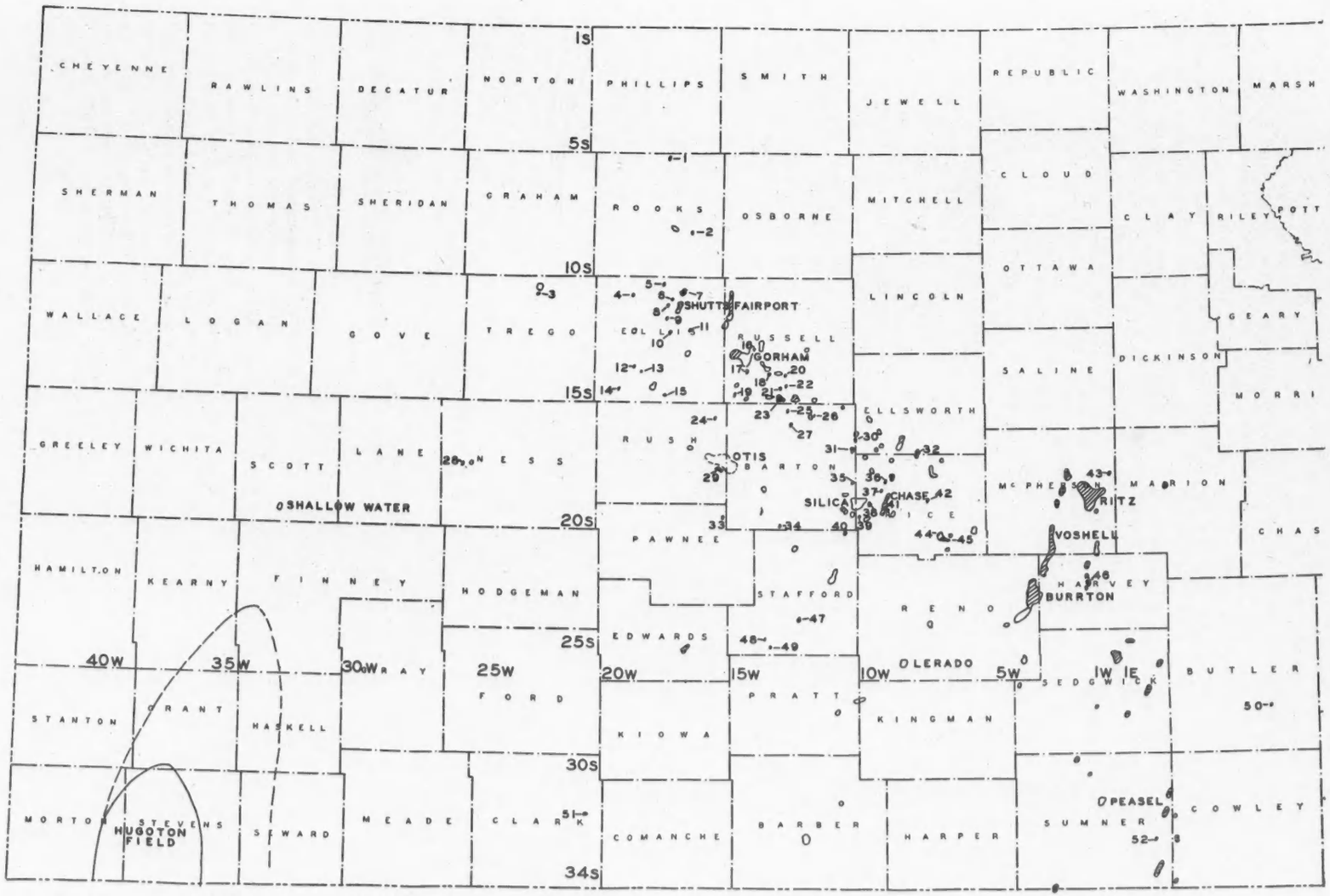
Development of New Fields

The geological range of producing horizons in new fields includes from Basal Cambro-Ordovician to lower Permian. Estimated ultimate recovery of new Kansas pools stands second only to Texas, and is approximately twice as large as its next competitor.

Active Exploration and Leasing Areas in Western Kansas During 1936



New Fields Discovered During 1936 in Western Kansas



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4 SOLOMON
5 HALLER
6 MARSHALL
7 BEMIS-ARBUCKLE
8 WALTERS
9 KOBLITZ
10 UBERT
11 CATHERINE
12 KRAUS
13 ANTONINO
14 PENNY-WAHN
15 MADDEN
16 W. RUSSELL
17 HARBAUGH
18 SO. GURNEY
19 STEINERT
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21 CORALENA
22 ANSCHUTZ
23 TRAPP
24 WINGIT
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30 SO. BREFORD
31 BLOOMER
32 EDWARDS
33 PAWNEE ROCK
34 HISS
35 RICK
36 HAFERMAN
37 DORAN
38 SCHARTZ
39 MANTEL
40 SNIDER
41 EMPIRE
42 LYONS GAS
43 NO. CANTON
44 SAXMAN
45 HAUSCHILD
46 WARKENTINE
47 ST. JOHN-ARBUCKLE
48 JORDAN
49 KIPP
50 McCULLOUGH
51 MORRISON
52 RUTTER

On a per acre basis new Kansas pools are estimated to have developed 77,000,000 barrels of reserve.

Arbuckle dolomite was the producing horizon of more than half of the 54 discoveries of 1936. Several reports as to the number of fields discovered indicate more or less than 54. Some new fields were merged by development and areas that were carried as more than one field have been merged and prorated as a single field during the year.

Of increasing importance has been the discovery of commercial production in six new fields which age where the Arbuckle Dolomite is either very thin or absent. Representing as it does a thick sand body, this horizon may become important in future development.

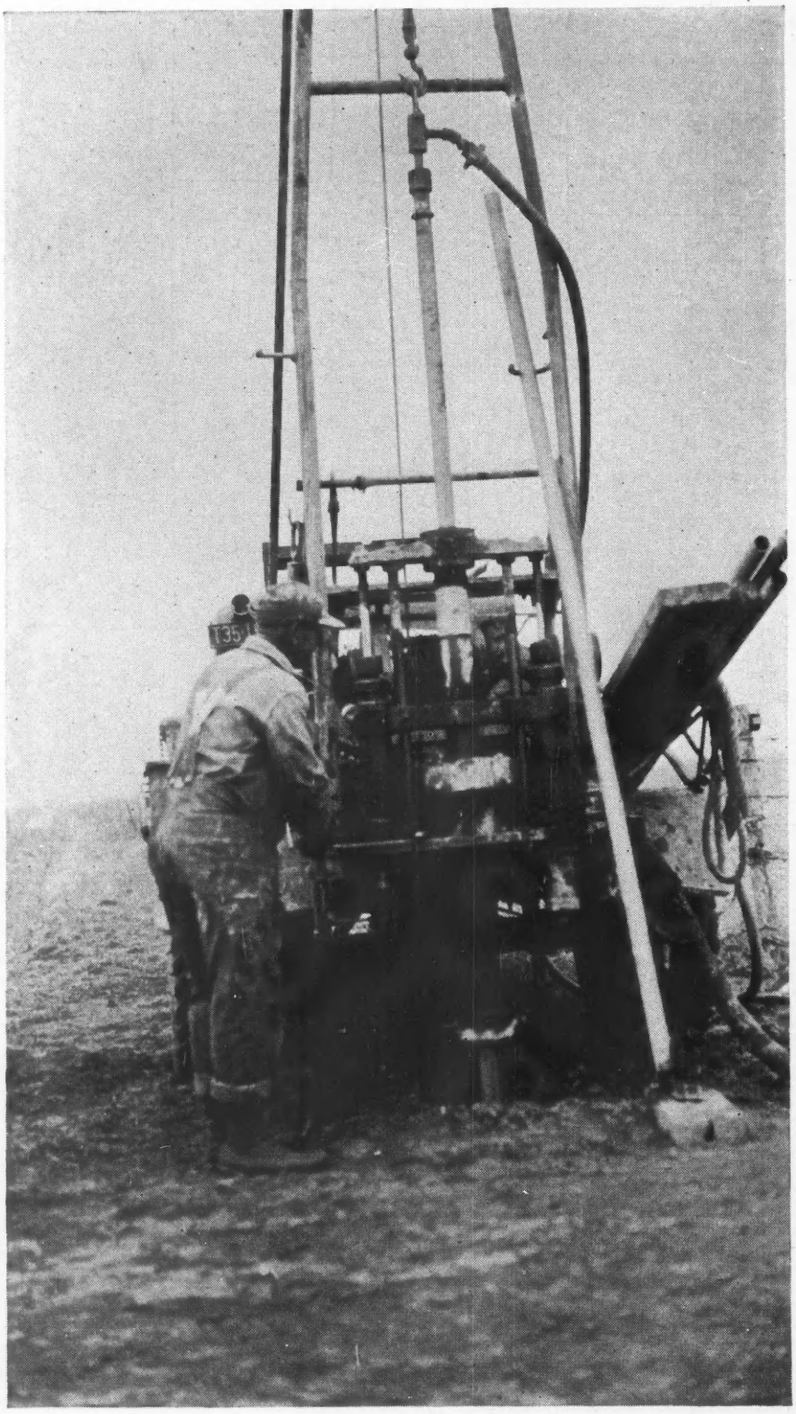
An important pool has been developed in a sandy basal Pennsylvanian conglomerate in the Hauschild area of southeastern Rice County. The field is the second largest of 1936 discoveries, and is near the wedge-edge of the Mississippi limestone on the Central-Kansas Uplift. This is the first production of this type in this geological locality. Several hundred miles of Mississippian wedge-out conditions exist along the south side of the Central-Kansas Uplift.

The farthest north commercial production was discovered in northern Rooks County; 30 miles south of the Kansas-Nebraska line. Two wells are now completed in the Pennsylvanian (Lansing - Kansas City lime) with a potential of approximately 700 barrels.

The largest new field in Kansas is the Trapp in southern Russell County, which produced 400,000 barrels to December 31, 1936.

Largest amount of drilling was done in extending the Burrton, Silica and Gorham fields.

Principal development activity was confined to or near the Central-Kansas Uplift.



Vast areas in Western Kansas are being seismographed and core drilled. Here is a shot hole station. Holes are drilled to depths ranging from 75 to 600 feet, depending upon surface characteristics prevalent in the area being worked. Casing lubricant is in some instances proportioned with mud to sustain the wells. In Western Kansas, where expansive tracts are sown to wheat, stations are made along secondary roads or at their intersections.

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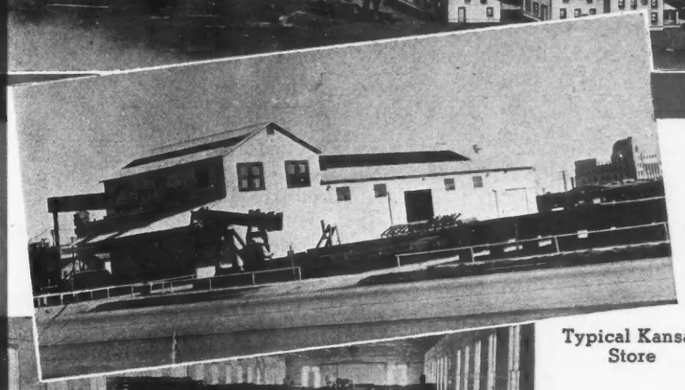
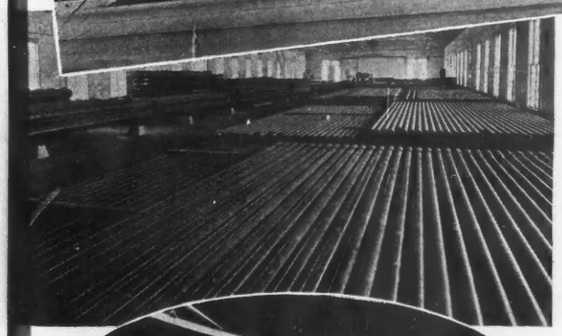
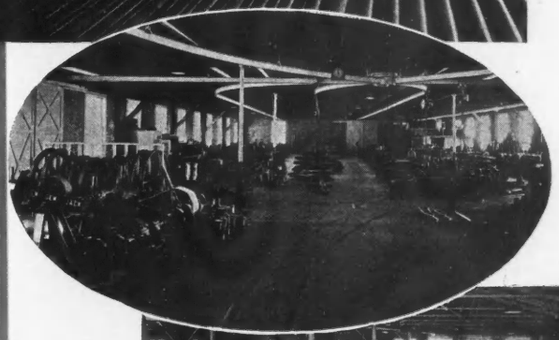


Typical Kansas Store



Mammoth pipe stocks



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Late Kansas Discoveries

IMPORTANT DEVELOPMENTS CONTINUE TO BE FOUND DURING YEAR 1937

By FRANK B. TAYLOR, Staff Writer

ONE of the most interesting attempts to extend productive zones into northern Kansas was completed late in January of this year in south-central Saline County, only a short distance north of the McPherson County production. The well is J. A. Brouk et al's Tehlander 1, NE SE 10-16s-3w, in the Olson pool discovered in 1929. This well went into the Viola lime and drilled to 3325 feet. After the hole was plugged back to 3320 feet it was acidized with 4000 gallons, and on test showed for 75 barrels of 35 gravity oil and considerable water.

After being produced for a relatively short time the well exhausted itself and has been abandoned. Siliceous lime had previously been tested for water at 3605 feet. Initial production on wells that had been drilled during initial explorative work, but which have since been abandoned, was as high as 887 barrels per day.

Although this test has entered the failure column, it has definitely increased interest in the numerous structures known to exist in the Salina Basin. Some operators hold large blocks on structures of the area that have either been core drilled or that are geologically reflected on surface strata. In past years there have been about seven of the domes of major prominence tested, without a field being developed. Minor volumes of gas were encountered and oil shows were encouraging, but no sustained commercial production resulted.

New Rice County Field

Rosespring Drilling Company's Mantel 1, SW SE NE 18-20s-10w, Rice County, pumped 418 barrels from Siliceous lime to prove a new productive area near prolific Raymond pool. It is possible that Mantel 1, is related to Raymond production, although this is not yet assured through delimitation. Raymond pool now has 58 producers in Siliceous lime.

Near Eminence, Finney County, Keith and Olson Drilling Company is putting down a wildcat that is being followed closely. The well is Ely 1, SWc 34-22s-29w. It is probable that this well will have at least a show of gas in the Big Blue series, and may be an important test in determining the northeast limitation of gas found in the Hugoton area. Location of the well is in an area that has been receiving widespread attention, particularly during the past year.

Another test that is serving to increase interest in extreme western areas, and which will be used as a marker in future drilling, is K. C. Bates et al's Nanocks 1, CNW NE 16-16s-28w, north central Lane County. This well had oil in Lansing lime topped at 3980 feet and drilled to 4055 with first show at 4050 feet. Nearest production is in the Thompson-Aldrich area to the southwest.

A new pool is credited to Clyde Pulse et al's Payne 1, SW NW NE 4-22s-7w, Reno County. The well produced an estimated 180 barrels daily from Lansing lime at 3244 feet after testing lower formations without results. Nearest major production from the test is in the Wherry area of Rice County.

Important Eastern Strike

Eastern Kansas came in for an important find when Ohio Oil Company's Schwab 1, SE SE SE 9-24s-10e, Greenwood County. The well is located in an old area that has been neglected with development in western Kansas. A test proved the well to open a new productive zone from Siliceous lime at 2700 feet. The area proved is about 10 miles north of Eureka.

A late extension to Harbaugh pool of Russell County

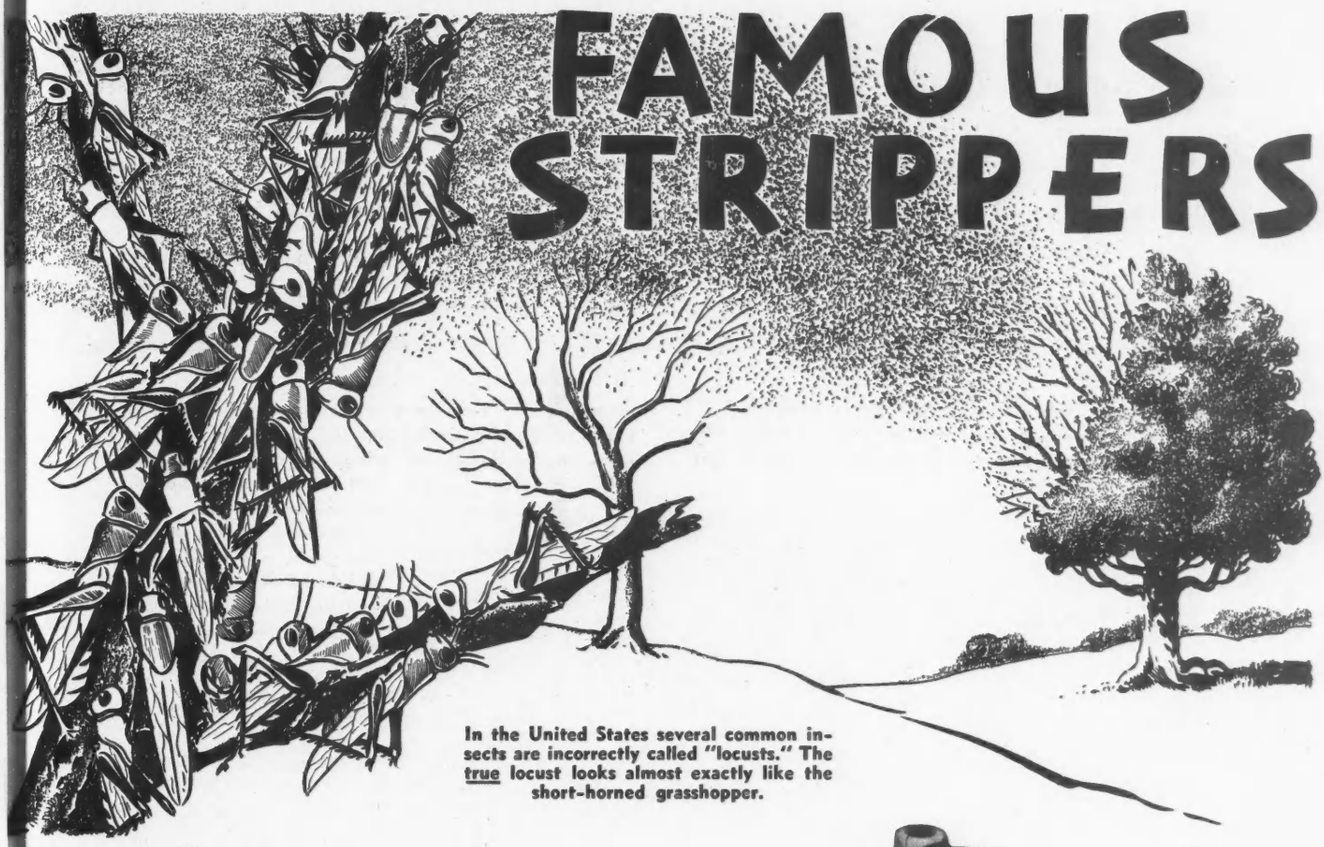
Unusual Insert Map

Accompanying this issue of The OIL WEEKLY is an insert map of the State of Kansas. It shows all the producing fields of the state, and is unusual in that it all shows the geological formation from whence each field is producing. This is the first time a map of this type has ever been published by an oil trade magazine. The geological producing formation, or formations as the case may be, of each field has been made possible by the use of seven colors, which makes it the largest map printing job ever undertaken by an oil publication.

We are quite proud to reproduce the map in The OIL WEEKLY, which has required a great deal of expense and painstaking effort.

We are indebted to Wichita Mapping & Engineering Company, Wichita, for the data, drafting and permission to publish it.

FAMOUS STRIPPERS



In the United States several common insects are incorrectly called "locusts." The true locust looks almost exactly like the short-horned grasshopper.

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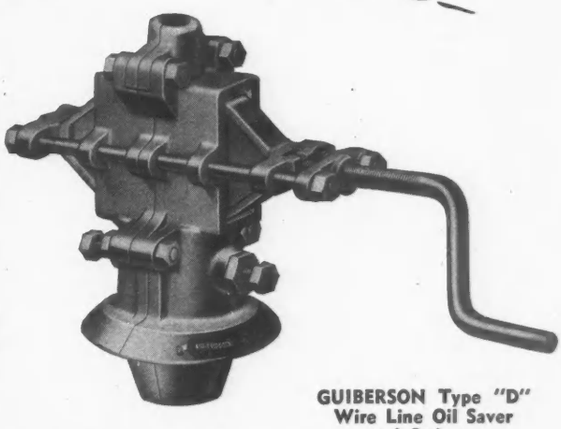
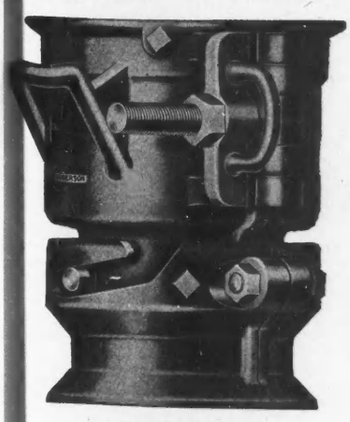


GUIBERSON Type "D" Wire Line Oil Saver and Stripper



GUIBERSON Type "C" Tubing Oil Stripper

The GUIBERSON Sucker Rod Stripper (1) Strips all oil from rods and couplings in coming out, (2) Prevents oil leakage when rods are pulled or run, (3) Protects from poison gas. Hydrostatically tested for 400 lbs.

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GUIBERSON Type "C" Sucker Rod Stripper

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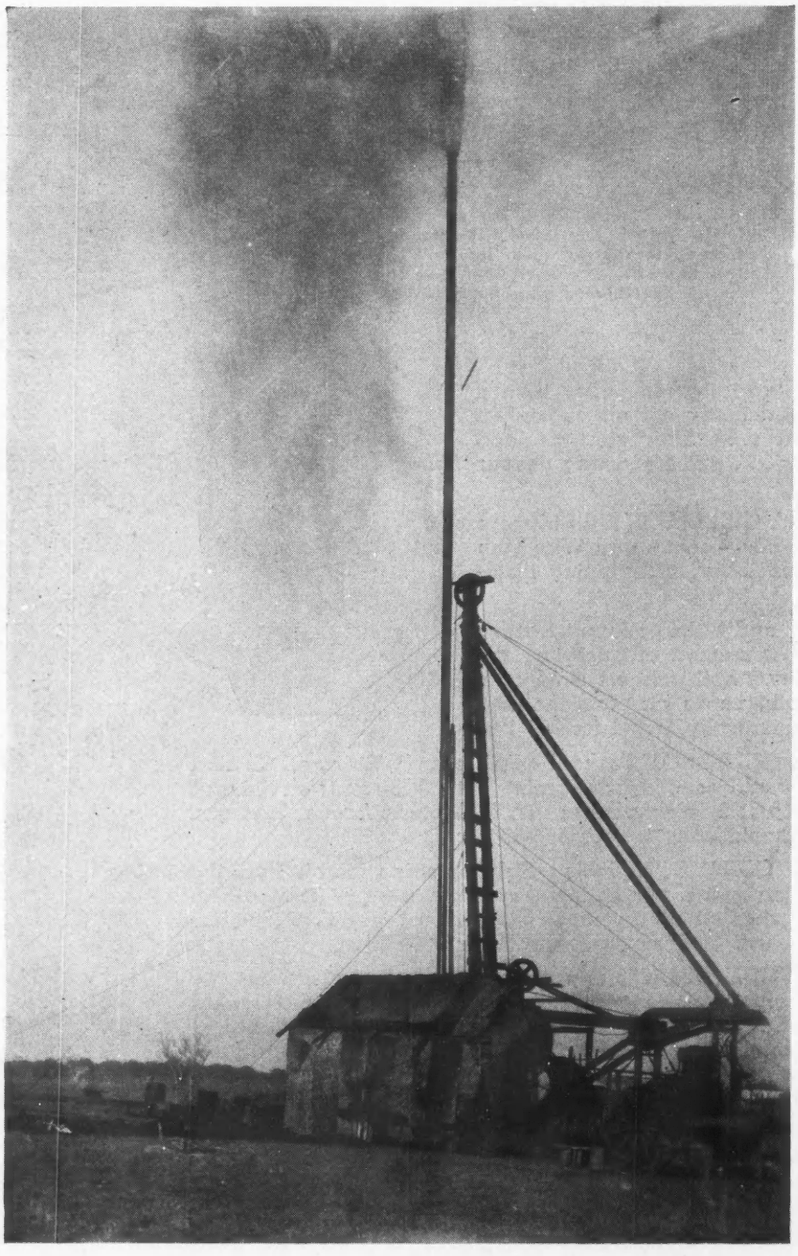
filled with 3000 feet of oil and no water from Gorham sand topped at 3186 feet. Well is National Refining Company's West Reinhardt 2-A, SE NE NW 36-14s-15w. Bemis pool of Ellis County has shown for 12 percent water from Siliceous along the southern edge of production. Another well indicating limitation of a pool filled 600 feet with water when drilled to Siliceous at 3327 feet in section 2-20s-10w, west of Chase pool of Rice County.

Operators of the Sunflower State are spreading their wildcat activities to include a great share of the western half of the state. Throughout the eastern section where production has been continuous for more than twenty years new areas are being drilled and older sectors are being redrilled or being adapted to secondary recovery methods.

Of the 118 wildcat wells drilling or proposed through announcement of location, many are of more than cus-

An unusual view showing well being completed in the southeastern Kansas shallow area. After a 60-quart shot the 8¼-inch casing rose to the height caught in the photograph; then dropped back into place. Note the timber in air, knocked from the mast top by the rising casing. Two guy wires were cut by the casing but no other damage was done. From the height of the mast, which is 45 feet, the height of the raised casing can be judged. The scene is of Greysolon Oil Company's J. C. Hester 76, 16 - 34s - 15e, Montgomery County, Kansas.



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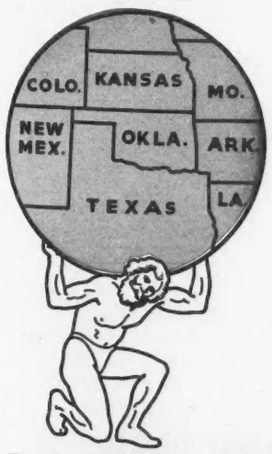

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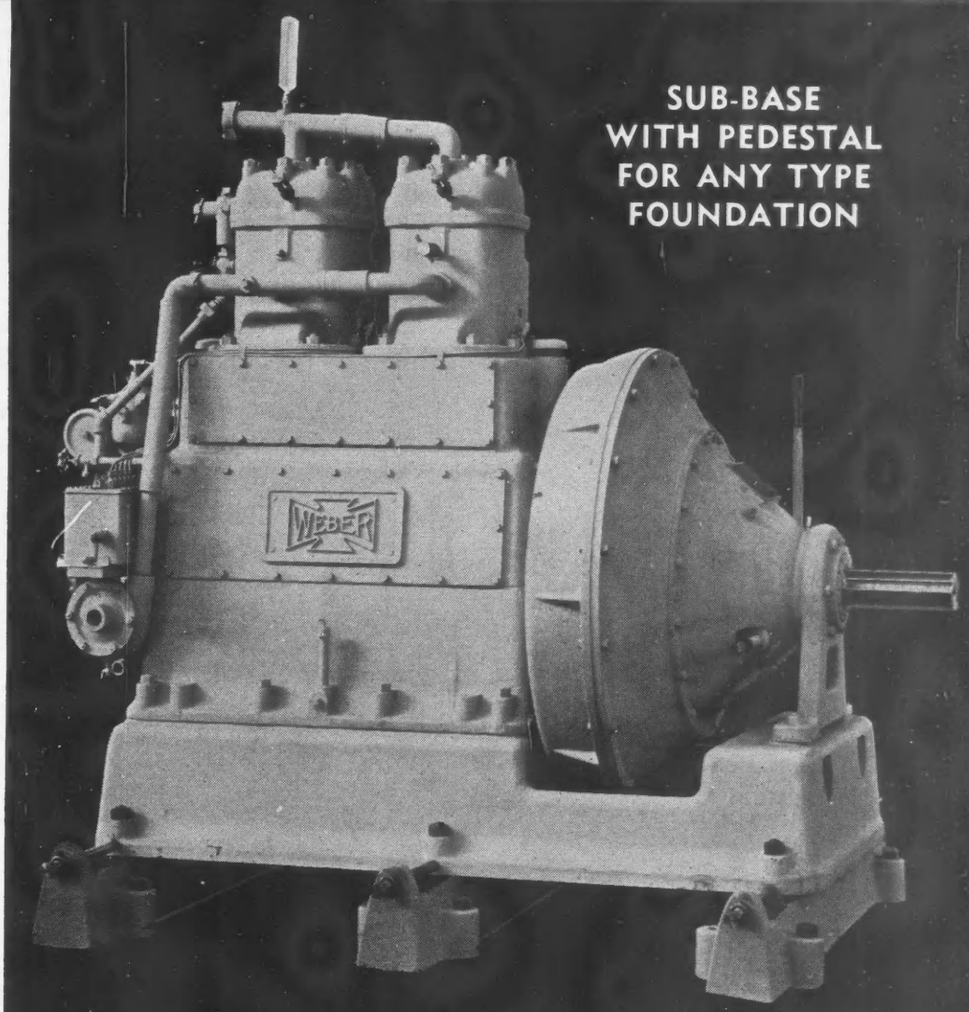

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BRANCHES LOCATED AT PRINCIPAL POINTS IN MID-CONTINENT

Development History of all Fields in Western Kansas

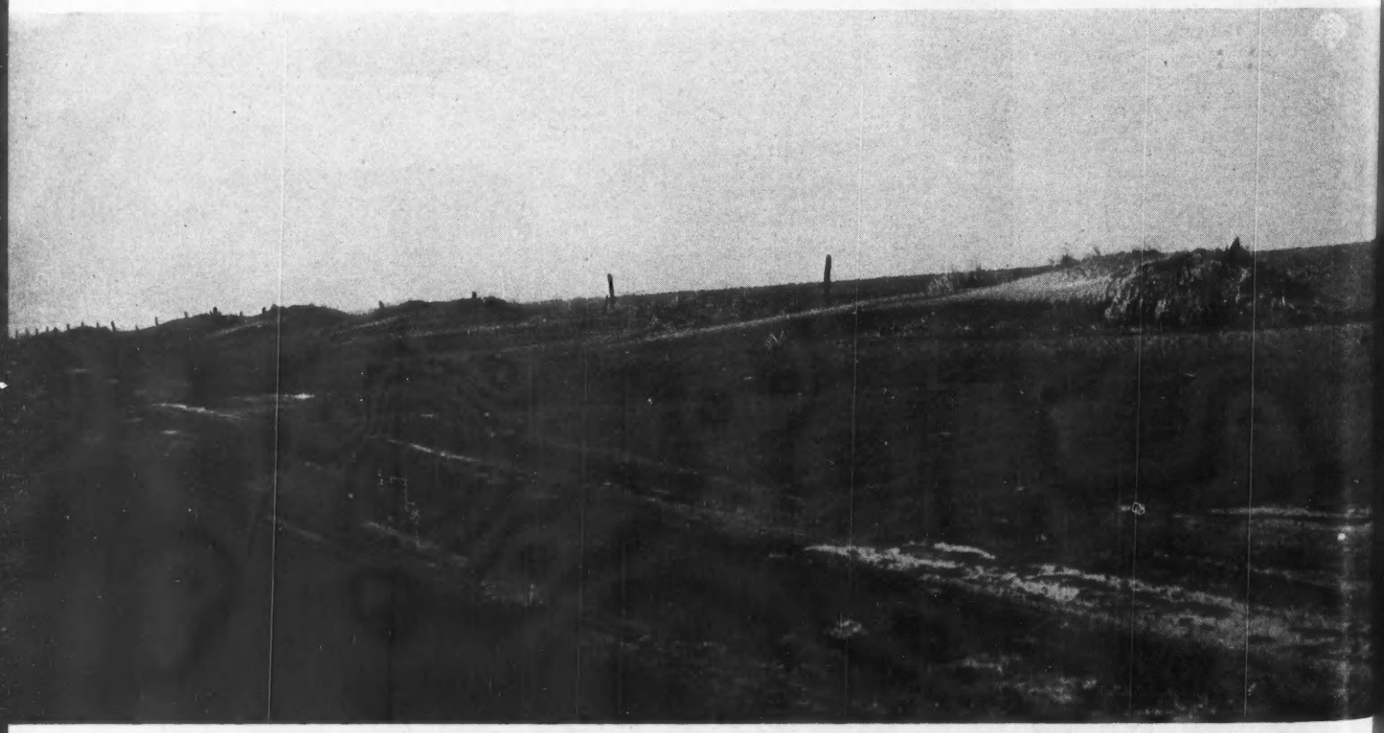
PERTINENT historical and development data on all producing fields in Western Kansas are presented on the following pages of this issue of The OIL WEEKLY. This material is published in a form, we believe, to be the most convenient for easy accessibility. These sketches of each field present information as to its location, discovery well, date found, producing depth and formation, extent of development, cumulative production, outlets, etc.

tomary interest at this particular time. Hamilton County has Denver Producing and Refining Company et al's Porter 1, SW SW NE 30-20s-41w, a location on a Cretaceous high that has received attention for the last ten years. One dry hole has been completed in the geologic area. The present test is proposed as being headed to deeper horizons.

Further testing of the southwest trend of Cunningham pool of Pratt and Kingman Counties, where Skelly Oil Company recently proved the Viola lime for 50,000,000 cubic feet of gas, is to be expected in the near future. In Harper County, where a number of indications have been encountered without opening an important area, Carter Oil Company's Seihart Estate 1, CSW NW 4-34s-8w, is at important depths.

Northwestern Wildcats

Near Tipton, in Mitchell County, is a drilling wildcat definitely off the Central Kansas Uplift. The well is George Seidhoff's Greiss 1, SW SW SE 16-8s-10w. In western Pawnee County, Cranshaw et al's Riederer 1, CW½ NW SE 29-21s-19w, is drilling south of the Central Kansas uplift. Only seventeen miles south of the Nebraska State line in Decatur County, Kansas, Bruce et al's Newbold 1, CNE SW 34-2s-28w, is an important location drilling in upper strata. This test is on the theoretical extension of the Central Kansas Uplift, and besides serving as a major marker for future drilling, if successful it will call for much drilling between Ellis County and the location. To date, a number of tests between this well and the major production of Ellis, Russell and Rice Counties have proven disappointing although there is nothing that limits the present northwest trend of major activity.



In southwest Kansas, road scenes like this are far from uncommon. Dust storms are frequent during the dry spring months, building up drifts that add greatly to the natural hazards of driving. Floating dust and granular particles add materially to operating costs and makes necessary special protective equipment on engine intakes. Dwellings and structures are frequently calked or otherwise protected.

Our Catalog is filed in the COMPOSITE CATALOG

PAGES
356-357

WE'LL BE BRINGING 'ER IN SATURDAY! HAVE THOSE TANKS SET BY THEN AND BE SURE THEY'RE BUTLER'S!
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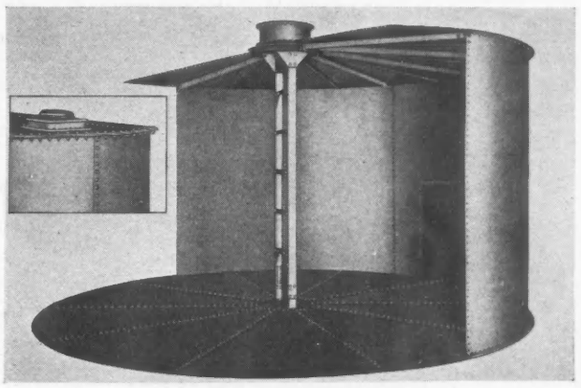

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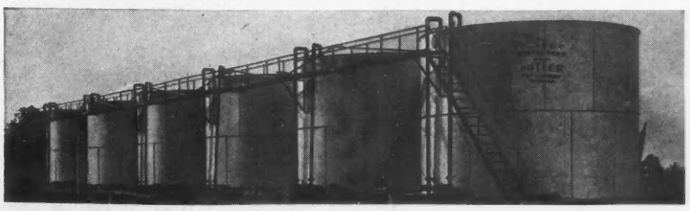
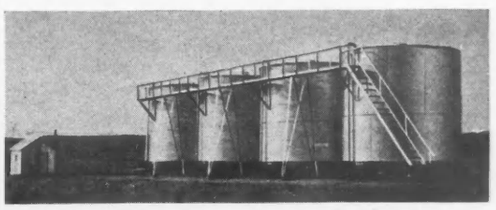
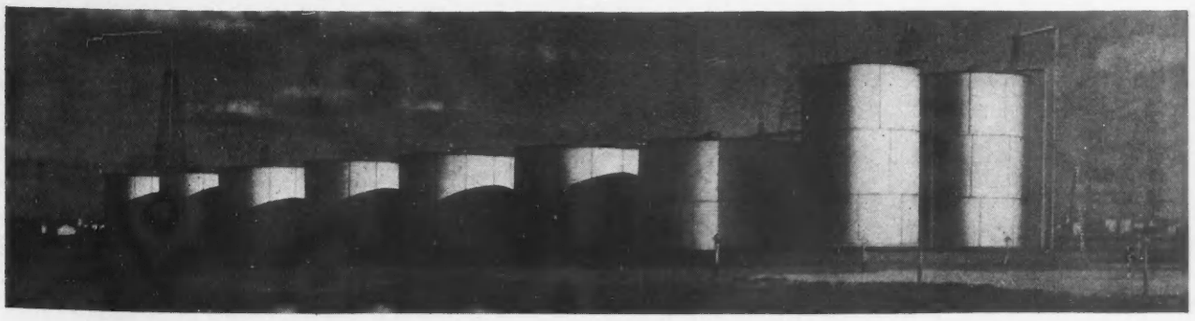




BUTLER IMPROVED STAIRWAYS AND RUNWAYS ARE TRIM, SAFE AND ECONOMICAL



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IRA ROCKHOLD, Local Store Manager

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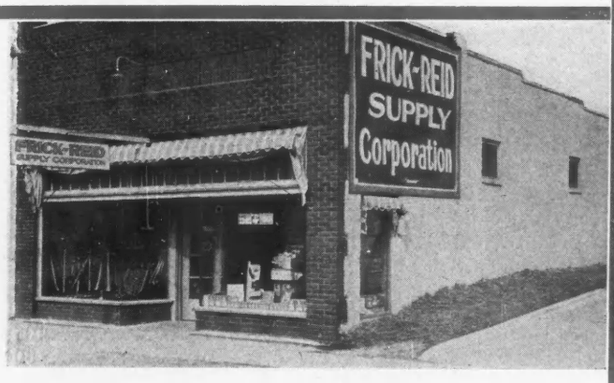

ARKANSAS CITY

L. H. CONVIRS, Local Store Manager

CHASE

E. L. McCARTNEY, Local Store Manager

R. T. PACKARD, Salesman

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HAYS

E. E. SPICER, Local Store Manager

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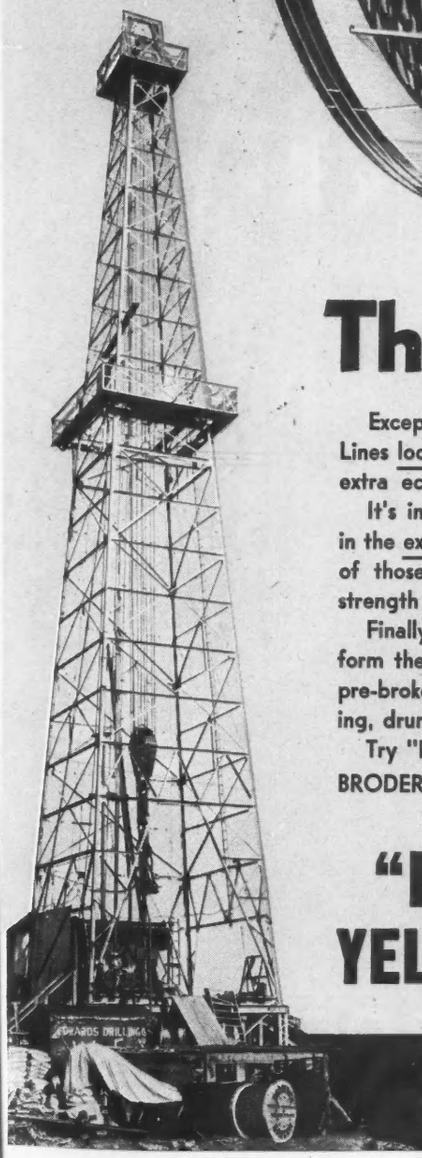

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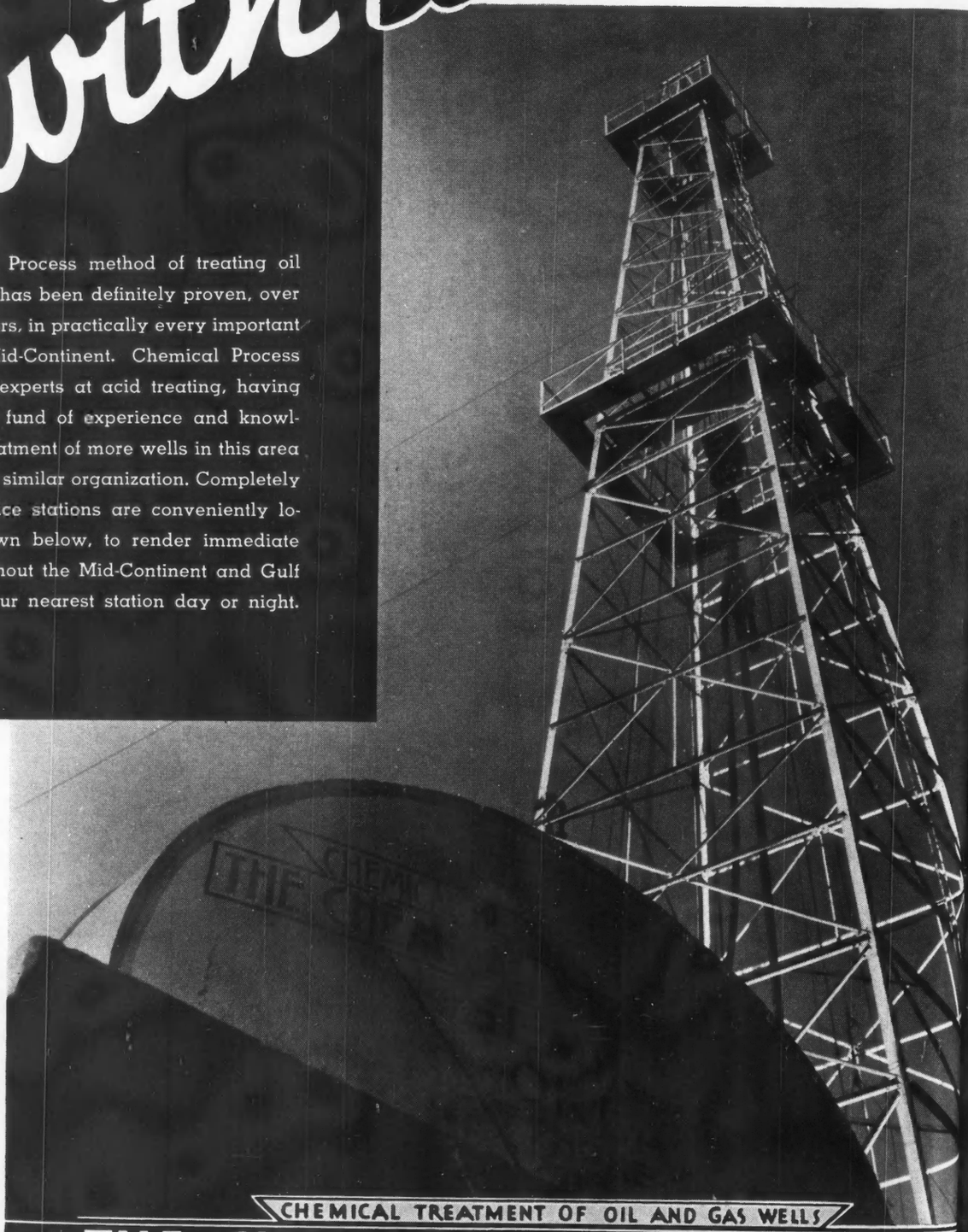
The Chemical Process method of treating oil and gas wells has been definitely proven, over a period of years, in practically every important field in the Mid-Continent. Chemical Process operators are experts at acid treating, having gained a vast fund of experience and knowledge in the treatment of more wells in this area than any other similar organization. Completely equipped service stations are conveniently located, as shown below, to render immediate service throughout the Mid-Continent and Gulf Coast. Call your nearest station day or night.



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WESTERN KANSAS OIL FIELDS

Compiled by FRANK B. TAYLOR of THE OIL WEEKLY Staff

Acknowledgment is made to the many operators, and state officials who have cooperated in the following compilation by making available their records and checking the data presented.

BARBER COUNTY

AETNA (Gas Field)

In T 34s and R 14, 15w, Barber County, Dodge City Basin, in territory largely unexplored. **Discovery Well:** Southern Drilling Co.'s Davis 1, SW SW NE 13-34s-15w, September, 1935. **Means of Discovery:** Pool was located primarily through tracing of surface indication, then based upon subsurface investigation. **Structure Type:** Normal dome. **Producing Formation:** Producing from Viola lime, topped at 5215 ft. **Producing Area:** Has not been defined through drilling, estimated gas productive area to be not less than 3,000 acres. **Principal Leaseholders:** Southern Drilling Co. (W. I. Southern, Inc.) **Remarks:** Two wells in this field, no outlet. Development during past year has led to discovery of oil in what had been considered pool limited to gas. This fact has encouraged leaseholder to plan deep test to Ordivician; location to be made this spring. Discovery well had show oil at 5219-5225 ft but failed to respond to acid. Initial production, 5,000,000 gas.

MEDICINE LODGE

In T 33s, R 13w, Barber County, on north flank of Dodge City Basin, in territory largely unexplored. **Discovery Well:** Shaffer Oil & Gas Co.'s Alexander 1, NW NW SE 7-14s-15w, proved commercial gas January, 1927. Barbara Oil Co.'s Holmes 1, SEc NE 15-33s-15w, found oil March, 1937. **Means of Discovery,** Surface, subsurface and geophysical. **Structure Type:** Large dome. **Producing Formation:** Viola lime at 4847 ft produces oil on southwest flank of gas area; lime is productive of gas only over balance of field. **Area:** 7,200 acres gas productive; oil limited to 120 acres on dome flank. **Deep Test:** Wilcox sand tested thin and dry at 4930 ft; Siliceous lime dry at 4939 ft with slight shows oil. **Principal Leaseholders:** Shaffer Oil Co. and Barbara Oil Co. **Remarks:** No oil production prior to 1937.

WHELAN

Centering in southwest of T 31s, R 11w, northeast Barber County, northeast flank Dodge City Basin. **Discovery Well:** November, 1934, Lario Oil & Gas Co.'s Whelan 1, CNW 32-31s-11w. **Means of Discovery:** Combined surface and subsurface geology. **Type Structure:** Anticline. **Producing Formation:** Mississippi chat from 4380 to 4450 ft. **Productive Area:** Not defined through drilling; but considered in excess of 80 acres. **Extent of Development:** Two producers; dry hole limits expansion to southeast. Pool has not received late attention. **Produced to 1937:** 42,630 barrels. **Market Outlet:** No established outlet for production. Globe Refining Co. is taking out some crude by tanks. **Principal Leaseholders:** Lario Oil & Gas Co. and The Vaccars Corp. **Remarks:** In common with other pools of limited development, lack of outlet has retarded exploration.

BARTON COUNTY

AINSWORTH

In T 18s, R 13w, Central Barton County, slightly south of the trend of Central Kansas Uplift. **Discovery Well:** Armer and Vernon Oil & Gas Co.'s Ainsworth 1, NE NE SE 33-18s-13w, December, 1936. **Means of Discovery:** Core drill and surface geology. **Structure Type:** Dome. **Producing Formation:** Siliceous lime, 3400 ft. **Productive Area:** 120 acres minimum, but pool not developed. **Extent of Development:** Four completions to April 1, all productive. **Produced to 1937:** 1,300 bbls; 35 gravity. **Market Outlet:** Kaw Pipe Line Co. **Principal Leaseholders:** Armer and Vernon Oil & Gas Co., Continental Oil Co., Stanolind Oil & Gas Co., Indian Territory Illuminating Oil Co. **Remarks:** Ainsworth is one of important discoveries flanking major trend of recent discoveries based upon Central Kansas Uplift as controlling factor.

ALBERT (Oil and Gas)

In T 18s, R 15 and 16w, in gas area flanking Central Kansas Uplift, on Barton-Rush County line. **Discovery Well:** Schermerhorn Oil Corp.'s Schroeder 1, NW NE 36-18s-16w, July, 1935. **Means of Discovery:** Geophysical. **Structure Type:** Anticline. **Producing Formation:** Reagan Sand, 3600 ft. **Productive Area:** 160 acres oil—800 acres gas. **Extent of Development:** Pool is not defined for either gas or oil production. Believed to be considerably larger than at present indicated. Edges unknown. Due for deep tests. **Produced to 1937:** 51,500 bbls; 35 gravity. **Wells Producing:** 6. **Rigs Running:** 2. **Market Outlet:** Globe Oil and Refining Co., Stanolind Pipe Line Co., Falcon Refining Co. **Principal Leaseholders:** Schermerhorn Oil Corp., Alyward Bros., Harris & Haun, Interstate Gas Co. **Remarks:** This pool closely related, geologically, to Bison and Otis pools.

BEAVER

In T 16s, R 12w, northern Barton County, southeast of prolific production on Uplift through Russell County. **Discovery Well:** Darby Petroleum Corp.'s Jarus 1, NW SW NE 16-16s-12w, December, 1934. **Means of Discovery:** Subsurface, core and surface. **Structure Type:** Anticline. **Producing Formations:** Gorham sand, 3335 to 3345 ft; Siliceous lime, 3345 to 3355 ft; Conglomerate, 3388 to 3415 ft. **Productive Area:** 380 acres. **Extent of Development:** Future drilling indicated to extend production of all three horizons. Pool not delimited. **Deepest Test:** Darby Petroleum Corp.'s Kultgen 1, 16-16s-12w, 3417 ft in Basal Conglomerate. **Produced to 1937:** 232,800 bbls; 38 gravity. **Wells Producing:** 10. **Market Outlet:** Stanolind Pipe Line Co. **Principal Leaseholders:** Darby Petroleum Corp., Gulf Oil Corp. **Remarks:** Ehly pool to southeast is considered by some to be an extension of Beaver production.

BLOOMER

In T 17s, R 11w, near Ellsworth County line in northwest Barton County, in area of major 1935-1936 play. **Discovery Well:** Carlson & Spencer et al's Bloomer 1, NE NE NW 36-17s-11w, February, 1936. **Means of Discovery:** Development of trend. **Structure Type:** Anticline. **Producing Formation:** Siliceous lime, 3275 ft. **Productive Area:** 580 acres, not limited through edge wells. **Extent of Development:** Pool one of most active 1936 discoveries. Most development north from discovery. **Produced to 1937:** 304,500 bbls; 44 gravity. **Wells Producing:** 41. **Rigs Running:** 10. **Market Outlet:** Kaw Pipe Line Co., Skelly Oil Co. **Principal Leaseholders:** Magnolia Petroleum Co., Skelly Oil Co., The Texas Co., Yarnell, Carlson & Spencer, National Refining Co., Atlantic Refining Co., Republic Oil & Gas Co. **Remarks:** Swift development and expansion followed discovery. Potentials range between 900 and 3,000 barrels per well.

DAVIDSON

Centering in T 16s, R 11w, extreme northeast Barton County, on Central Kansas Uplift. **Discovery Well:** Sinclair Prairie Oil Co.'s Davidson 1, NW NW SE 4-16s-11w, made 200 bbls oil with trace water, March, 1930. **Means of Discovery:** Surface geology. **Structure Type:** Anticline. **Producing Formation:** Siliceous lime between 3328 and 3338 ft. **Productive Area:** Not less than 80 acres. **Extent of Development:** Rose & Lant's Redetzke 1, NE NW NW 10-16s-11w, southeast of discovery was completed September, 1936 for 36 bbls from 3108 ft. This is one location southeast of Davidson 1. A dry hole has been completed one location north of discovery. Expansion may be to west and southwest. **Produced to 1937:** 4,900 bbls; 38 gravity. **Wells Producing:** 1. **Rigs Running:** 1. **Market Outlet:** Kaw Pipe Line Co. **Principal Leaseholders:** Sinclair Prairie Oil Co., G. H. Rose and W. H. Lant. **Remarks:** Evidently a small productive spot through reason of minor anticline forming trap of low arc.

EBERHARDT

Near center of T 19s, R 11w, west of major play, extreme eastern Barton County. **Discovery Well:** Downing et al's Eberhardt 1, SEc 14-19s-11w, made oil June, 1935. **Means of Discovery:** Wildcat location. **Producing Formation:** Siliceous lime at average depth of 3350 ft. **Productive Area:** 120 acres. **Extent of Development:** Four completions, each being a producer. Productive area due for expansion through continued development of productive trend. **Produced to 1937:** 44,300 bbls, 38 gravity. **Wells Producing:** 4. **Market Outlet:** Stanolind Pipe Line Co. **Principal Leaseholders:** The Texas Co., Simpson, Stanolind Oil & Gas Co.

EHLY

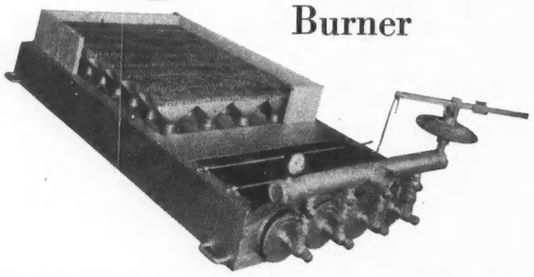
In T 16s, R 12w, northern Barton County, first section east of Beaver production. **Discovery Well:** Vickers Petroleum Co. et al's Ehly 1, SWc 15-16s-12w, December, 1936, made potential of 311 bbls. **Means of Discovery:** Geologic extension of Beaver pool, to west. **Structure Type:** Minor anticline. **Producing Formation:** Conglomerate (basal) topped at 3331 ft; td 3345 ft. **Productive Area:** 80 acres. **Extent of Development:** As it is doubtful if this pool is correctly individual, it could well be classed as extending Beaver production. **Produced to 1937:** 1,700 bbls. **Market Outlet:** Stanolind Pipe Line Co. **Wells Producing:** 1. **Principal Leaseholders:** Vickers Petroleum Co. **Remarks:** This pool may be found productive in other formations as is indicated by nearby wells.

ELLINWOOD

In T 20s, R 11w, eastern Barton County, west of 1936 activity in Rice County, on Central Kansas Uplift. **Discovery Well:** Midwest Exploration Co.'s Scheufler 29, C SW SE 9-20s-11w, July, 1932. **Means of Discovery:** Seismograph, core drill and surface geology. **Structure Type:** Producing from faulted anticline. **Producing Formation:** Siliceous lime at average depth of 3330 ft. **Productive Area:** 190 acres. **Extent of Development:** Pool is apparently defined through drilled failures. Some inside locations

SONNER

Super Air-Cooled Burner



The Sonner SUPER AIR-COOLED Burner may be quickly and easily adjusted to burn natural or artificial gases with the highest efficiency, without extinguishing the fire. Equipped with an adjustable needle valve orifice and adjustable primary air shutter making it possible to obtain the exact proportion of gas and air desired. The scientifically designed venturi allows sufficient air to be entrained and thoroughly mixed with the gas. May be ordered as a complete boiler unit as shown in the specifications and illustration, or special assemblies for unusual types of installations may be had on special order.

Standard Air-Cooled Burner

The Sonner STANDARD AIR-COOLED Burner is engineered to Oil Field service, built to stand the gaff, yet as sensitive to changing load conditions as the most delicate measuring instrument. The deep slot construction of the burner head permits the lowest possible turn down without danger of flash back, unusually large cooling surface prevents the deep slot from over heating. Unit is completely automatic with respect to the air flow and when used with a semi-actuated boiler fuel governor requires little or no attention. Easily removable from location in a few minutes. Built to cover range of boilers from 50 H.P. to 125 H.P. as indicated in accompanying table. Special sizes and arrangements of burner units may be had on special order.

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FOR OPEN BOTTOM BOILERS

Nominal Boiler H.P.	Super Air-Cooled Burner			Stand. Air-Cooled Burner			Gas Pressure Required to Develop Boiler Rating	Gas Pressure Required to Develop 100% Boiler Overload
	No.	Grate Dimensions		No.	Grate Dimensions			
		Width	Length		Width	Length		
65	LV-15	30½"	36"	L10-12	28"	30½"	1½ lb.	5 lb.
75	LV-15	30½"	36"	L10-15	30½"	35"	1 lb.	4½ lb.
90	LV-15	30½"	36"	L10-18	30½"	42"	1 lb.	4½ lb.
90	LV-24	30½"	56"	L10-24	30½"	56"	½ lb.	2¼ lb.
100	LV-24	30½"	56"	L10-24	30½"	56"	¾ lb.	3 lb.
125	LV-24	30½"	56"	L10-24	30½"	56"	1 lb.	4½ lb.
FOR SEMI-WATER BOTTOM BOILERS								
50	LV-10	20½"	36"	L10- 9	21"	30½"	1¼ lb.	5½ lb.
60	LV-10	20½"	36"	L10-12	28"	30½"	1 lb.	4½ lb.
75	LV-15	30½"	36"	L10-15	30½"	35"	1½ lb.	5½ lb.
100	LV-15	30½"	36"	L10-18	30½"	42"	1 lb.	3¾ lb.
125	LV-21	30½"	49"	L10-21	30½"	49"	1¼ lb.	5½ lb.

Manufacturers of the SONNER Perfecto Burner, the original reverse flow, oil field burners on the market for over 13 years, established as the leaders in the conversion of oil field boilers.

See Page 1627 Composite Catalog of Oil Field and Pipe Line Equipment for complete Description. Sold through supply stores everywhere.

THE SONNER BURNER CO.
Winfield, Kansas

to be drilled. Expansion of productive area considered doubtful. No trend indicated. **Produced to 1937:** 992,700 bbls, 41 gravity. **Market Outlet:** Stanolind Pipe Line Co. **Number Wells Producing:** 15. **Principal Leaseholders:** Noble Oil Co., Stanolind Oil & Gas Co. **Remarks:** Production not showing expected percent water. Drilling into Siliceous lime about 30 feet to productive stratum. Rotary customary to lime, completing with cable tools.

FEIST

In T 18s, R 11w, an outpost of production on southwest flank of Uplift; eastern Barton County. **Discovery Well:** Torrey et al's Feist 1, NE NE SE 29-18s-11w, December, 1935. **Means of Discovery:** Reflected surface structure core drilled. **Structure Type:** Minor anticline. **Producing Formation:** Basal Conglomerate at 3440 ft. **Productive Area:** Undefined, apparently 80 acres or less. **Extent of Development:** East offset to discovery dry at 3498 ft. Failure at one location diagonally northwest of discovery at 3542 ft. **Deepest Test:** 3542 ft, February, 1937. **Production to 1937:** 18,300 bbls, 40 gravity. **Market Outlet:** Kaw Pipe Line Co. **Wells Producing:** 1. **Principal Leaseholder:** Torrey et al.

HEIZER

In T 19s, R 14w, 6 mi northwest of Great Bend, Barton County. **Discovery Well:** Skelton Oil Co.'s Ott 1, CSE SE 16-19s-14w, August, 1935. **Type Structure:** Anticline. **Producing Formation:** Kansas City lime between 3225 and 3255 ft. **Productive Area:** 40 acres. **Extent of Development:** No other development. Well not good for more than 30 bbls daily. Discovery was carried to 3706 ft and pb to production. **Market Outlet:** None established. Falcon Refining Co., transporting some crude from pool. **Wells Producing:** 1. **Rigs Running:** 1. **Principal Leaseholders:** Rush Oil Co. **Remarks:** Rush Oil Co. took over holdings of Skelton Oil Co., original leaseholders. This pool one of strikes in line south of flank production of Uplift, and is in area receiving increased attention.

HISS

In T 20s, R 13w, extreme southern Barton County. **Discovery Well:** Simpson, Noble and Atlantic Refining Co.'s Hiss 1, CNW NE 31-20s-13w, May, 1936. **Means of Discovery:** Geophysical. **Structure Type:** Anticline. **Producing Formation:** Kansas City lime, 3180-3280 ft. **Productive Area:** 260 acres. **Extent of Development:** Pool appears to be defined by drilling. Inside locations undrilled. **Deepest Test:** One well carried to Siliceous, dry and pb to pay. **Produced to 1937:** 39,600 bbls, 36 gravity. **Market Outlet:** Stanolind Pipe Line Co. **Wells Producing:** 4. **Principal Leaseholders:** Atlantic Refining Co., Simpson and Noble, The Texas Co. **Remarks:** Lease play around this area one of hottest during 1936. Pool in line with gas-oil production south of Uplift, and Kansas City lime carries more than usual volume of gas.

ISERN

In T 20s, R 11w, extreme southeastern Barton County, south of Rice County Silica pool. **Discovery Well:** Hilligos et al's Isern 1, SW SE NE 12-20s-11w, October, 1931. **Means of Discovery:** Wildcat location. **Structure Type:** Dome. **Producing Formation:** Siliceous lime at average depth of 3325 ft. **Productive Area:** 380 acres. **Extent of Development:** Production seems to be limited by edge producers. Normal development has led to expansion toward Silica, with which production is included. **Gravity:** 43 degrees. **Market Outlets:** Falcon Refining Co., Stanolind Pipe Line Co., Sinclair Prairie Pipe Line Co. **Wells Producing:** 11. **Rigs Running:** 2. **Principal Leaseholders:** Derby Oil Co., Davis, Hilligos, Magnolia Petroleum Co., J. H. Tatlock.

LANTERMAN

In T 19s, R 11w, near Rice-Barton County line, Barton County. **Discovery Well:** Murfin & Downing's Lanterman 1, NW NW SE 15-19s-11w, January, 1935. **Means of Discovery:** Trend of location. **Producing Formation:** Siliceous lime at average depth of 3333 ft, in thin pay. **Productive Area:** 40 acres. **Extent of Production:** Single well pool with offsetting failure to southwest. Discovery well was drilled to 3399 ft and pb to pay. **Gravity:** 42 degrees. **Market Outlet:** Stanolind Pipe Line Co. **Wells producing:** 1. **Rigs Running:** 1. **Principal Leaseholders:** Murfin & Downing. **Remarks:** Although production not high, further early development may be expected.

PETER

In T 20s, R 11w, extreme southeast Barton County, in major trend of late production. **Discovery Well:** Lario Oil & Gas Co.'s Peter 1, NW NW NW 24-20s-11w. **Means of Discovery:** Combined surface and subsurface. **Type Structure:** Anticline. **Producing Formation:** Siliceous lime, 3270 to 3300 ft. **Productive Area:** 380 acres. **Extent of Development:** Edges of pool are fairly well established by normal drilling. A number of inside locations to be drilled. Pool is in state of development at this time. Deepest hole to 3309 ft. **Produced to 1937:** 154,400 bbls, 42 gravity. **Market Outlet:** Sinclair Prairie Pipe Line Co. **Wells Producing:** 19. **Rigs Running:** 3. **Principal Leaseholders:** Buchanan & Alexander, Gulf Oil Corp., Lario Oil & Gas Co. **Remarks:** Initial production generally exceeds 1200 bbls after acid. Production well sustained.

RICK

In T 19s, R 11w, eastern Barton County, Central Kansas Uplift in productive trend from Rice County. **Discovery Well:** Rose Spring Drilling Co.'s Rick 1, SW SW SW 1-19s-11w, July, 1936. **Means of Discovery:** Production trend combined with subsurface. **Producing Formation:** Siliceous lime, average 3350 ft. **Productive Area:** 80 acres, not defined. **Extent of Development:** Pool in initial stages of development. West offset to discovery found Siliceous dry. Expansion has been to east and south of discovery. **Produced to 1937:** 25,200 bbls, 36 gravity. **Wells Producing:** 5. **Rigs Running:** 1. **Principal Leaseholders:** Rose Spring

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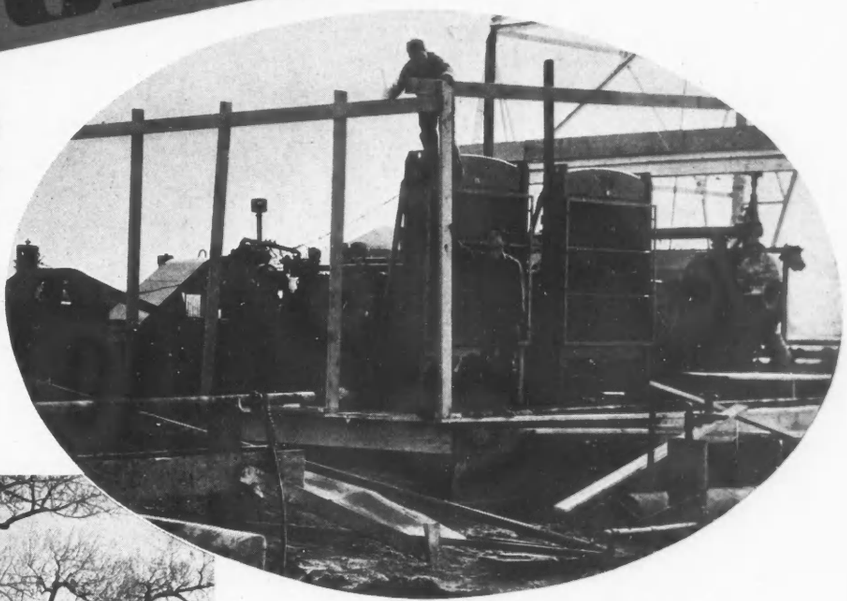

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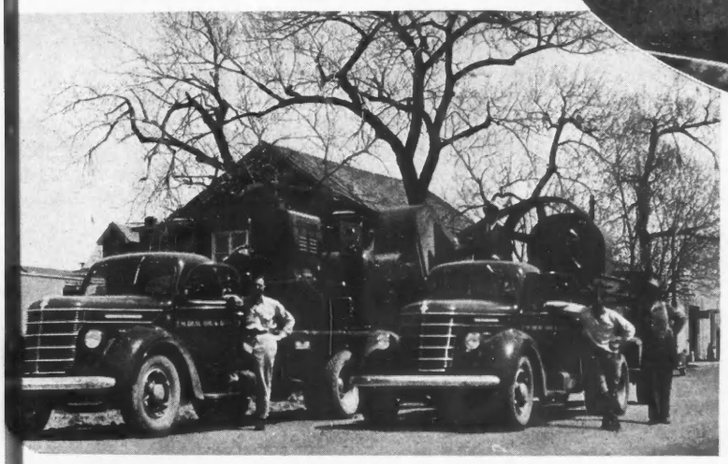

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Drilling Co., Empire Oil & Refining Co., Shell Petroleum Corp. **Remarks:** In area of prolific production following treatment of lime, this pool due for further drilling.

SUSANK

In T 16s, R 13w, 3 miles south of Eichman pool of Russell County, but lying in Barton County. **Discovery Well:** C. C. Price's Deutsch 1, NWc NE 16-16s-13w, November, 1936. **Means of Discovery:** Surface and core drill. **Producing Formation:** Siliceous lime, 3375 to 3400 ft. **Productive Area:** 350 acres. **Extent of Development:** 3 completions in field, believed do not indicate productive limit. **Produced to 1937:** 1,000 bbls, 37 gravity. **Market Outlet:** Kaw Pipe Line Co. **Wells Producing:** 3. **Rigs Running:** 2. **Principal Leaseholders:** Empire Oil & Refining Co., C. C. Price. **Remarks:** Pool being slowly expanded, leaving a number of inside locations.

CLARK COUNTY

MORRISON

In T 32s, R 21w, northeast Clark County, 60 miles from nearest production. Pool is geologically located near center of Dodge City Basin in what has been considered deep zone. **Discovery Wells:** Gas in Watchorn Oil & Gas Company's 3, NWc 21-32s-21w, November, 1928, from broken lime at 5450 ft, estimated at 20,000,000 cubic ft open flow; oil in Olson and Watchorn's Morrison 1, 17-32s-21w, November, 1936. **Means of Discovery:** Surface indications. **Producing Formations:** Upper lime (broken) productive of gas only, 5450 ft; oil in Viola lime 6477 to 6481 ft. **Productive Area:** Undefined, 2 producers. **Extent of Development:** Two wells productive of oil. Gas area covers 640 acres. Production indicated with completion of discovery oil well is falling off and water intruding. Considered likely that location does not top structure. **Market Outlet:** Stanolind Pipe Line Co. to loading rack on RR. **Wells Producing:** 2. **Principal Leaseholders:** Olson and Watchorn. **Remarks:** Discovery made 2358 bbls on potential test and has been considered by many as being most important 1936 discovery. Deepest producing well in Kansas. Completion fostered widespread leasing in Clark, Comanche, and Ford Counties.

EDWARDS COUNTY

McCARTY

In T 25s, R 17w, 12 miles southeast of Kingsley, Edwards County, Dodge City Basin. **Discovery Well:** British American Oil Producing Co.'s McCarty 1, NE NE NW 31-25s-17w, May, 1929. **Means of Discovery:** Surface indications. **Structure Type:** Dome. **Producing Formation:** Mississippi chat at 4575 ft. **Productive Area:** 700 acres. **Extent of Development:** Pool not developed. No established outlet. However, with increased interest in deeper drilling in Dodge City Basin, pool may have Ordivician test. Chat, which produces large volumes gas in most of west Kansas, makes 10,000,000 cu ft daily in this pool. Original wells of British American Oil Producing Co. have been plugged. **Gravity:** 35 degrees. **Market Outlet:** None established, Barnsdall Refining Co. taking irregular shipments. **Producing Wells:** 1. **Principal Leaseholder:** Amerada Petroleum Corp.

ELLIS COUNTY

ANTONIO

In southwest Ellis County, T 14s, R 19w, on south flank of probable extension of Central Kansas Uplift, in area receiving general attention during late 1935 and 1936. **Discovery Well:** Twin Drilling Co. et al's Copeland 1, NE NE SW 26-14s-19w, June, 1936. **Means of Discovery:** Surface indications. **Structure Type:** Faulted anticline. **Producing Formation:** Reagan sand topped at 3703 ft. Production from 3704 to 3710 ft. **Productive Area:** 100 acres. **Extent of Development:** Pool is not defined. Gulf Oil Corp.'s Klaus 1, SW SW NE of the same section, dry at 3823 ft, Siliceous lime. This well is diagonal offset to discovery. **Produced to 1937:** 4,700 bbls, 32 gravity. **Market Outlet:** Kaw Pipe Line Co. **Principal Leaseholders:** Derby Oil Co., Twin Drilling Co., Gulf Oil Corp., Phillips Petroleum Co. **Remarks:** During 1936 successful outposts to northwest trend of production increased wildcat activity in this sector; activity expected to gain impetus in 1937.

BEMIS

(And including So. Bemis, not joined.) In T 11s, R 17w, northeast Ellis County, and directly in line with indicated extension of production as based upon Central Kansas Uplift. **Discovery Well:** Louis Roark et al's Bemis 1, SEc 16-11s-17w, October, 1935. **Structure Type:** Dome. **Producing Formation:** Topeka lime at average of 3029 ft and Siliceous lime at 3350 to 3450 ft. **Productive Area:** 420 acres. **Extent of Development:** Pool appears to be completely defined by development. Major extension improbable. Inside locations to be drilled. Topeka lime not being exploited. **Deepest Well:** Phillips Petroleum Co.'s Bemis 2, 3461 ft in Siliceous lime. **Production to 1937:** 292,500 bbls, 29 and 35 gravity. **Market Outlet:** Stanolind Pipe Line Co. **Producing Wells:** 31. **Rigs Running:** 7. **Principal Leaseholders:** Phillips Petroleum Co., Margay Oil Co., Ryan Consolidated Oil Co., British American Oil Producing Co., Uscan Oil Co. **Remarks:** The original discovery well of the pool, into Topeka lime, was deepened to Siliceous which proved to be the prolific pay with a number of potentials exceeding 2000 bbls.

CATHERINE

In T 13s, R 17w, northeast Ellis County, an outpost near northwest limit of productive trend. **Discovery Well:** Harris & Haun et al's Schmeidler 1, SE SE SW 3-13s-17w, June, 1936. **Means of Discovery:** Surface and core drill. **Producing Formation:** Oswald lime topped at 3272 ft. **Productive Area:** 220 acres. **Extent of**

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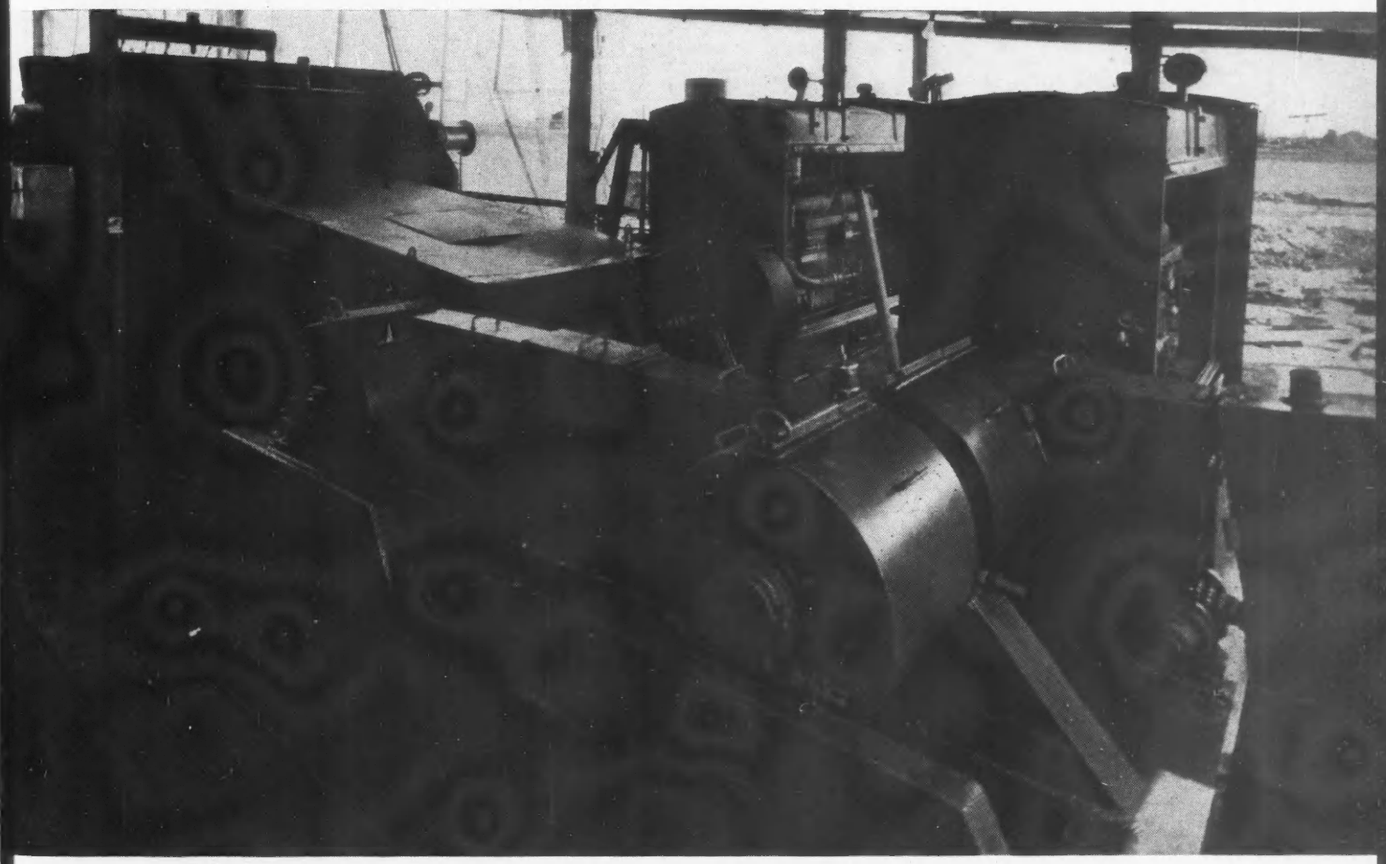

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Development: Pool is indicated to be of comparatively small perimeter, but has not been defined. **Produced to 1937:** 11,500 bbls, 30 gravity. **Market Outlet:** Stanolind Pipe Line Co. **Wells Producing:** 4. **Principal Leaseholders:** Harris & Haun, Gulf Oil Corp, Ohio Oil Co.

HADLEY

In T 11s, R 17w, adjacent to Bemis pool, northeast Ellis County. **Discovery Well:** Burgher Oil Co.'s Hadley 1, SW SW SW 20-11s-17w; August, 1929. **Means of Discovery:** Surface indications. **Structure Type:** Dome extension. **Producing Formations:** Conglomerate at 3435 ft and Siliceous lime at 3630 ft. **Productive Area:** 100 acres. **Extent of Production:** One well into Siliceous is small, making potential of only 17 bbls on initial test. Pool is considered by some as being Bemis extension, theory is questioned. **Gravity:** 29 degrees. **Market Outlet:** Stanolind Pipe Line Co. **Wells Producing:** 2. **Principal Leaseholders:** Deep Rock Oil Co., Burgher Oil Co.

HALLER

In T 11s, R 18w, northern Ellis County. **Discovery Well:** Kansas Development Co.'s Haller 1, SE SE NW 10-11s-18w, July, 1936. **Producing Formation:** Topeka lime at 3040 ft, topped at 3034 and drilled to 3050 ft. **Productive Area:** 90 acres. **Extent of Development:** A south offset to the discovery was drilled to Siliceous lime at 3501, td, by Minnehoma Oil & Gas Co, completed January 6, 1937, well was dry. **Produced to 1937:** 4500 bbls, 40 gravity. **Market Outlet:** Stanolind Pipe Line Co. **Wells Producing:** 1. **Principal Leaseholder:** Kansas Development Co.

KRAUS

In T 13s, R 19w, southwest of Hays, Ellis County. **Discovery Well:** Vickers Petroleum Co.'s Kraus 1, SE SE NW 22-14s-19w, September, 1936. **Means of Discovery:** Subsurface. **Producing Formation:** Reagan sand, 3735 to 3740 ft. **Productive Area:** Not sufficient indication for estimate. **Produced to 1937:** 6500 bbls, 35 gravity. **Market Outlet:** Kaw Pipe Line Co. **Wells Producing:** 1. **Rigs Running:** 1. **Principal Leaseholder:** Vickers Petroleum Co.

MADDEN

In T 15s, R 18w, Ellis County, northwest trend of production of Central Kansas Uplift. **Discovery Well:** Bridgeport Machine Co.'s Madden 1, NE NW NW 26-15s-18w, August, 1936. **Means of Discovery:** Subsurface geology. **Producing Formation:** Siliceous lime at 3590 ft. **Productive Area:** 40 acres. **Produced to 1937:** 7400 bbls, 37 gravity. **Market Outlet:** Kaw Pipe Line Co. **Wells Producing:** 1. **Principal Leaseholder:** Bridgeport Machine Co.

MARSHALL

In T 11s, R 18w, Ellis County. **Discovery Well:** Lario Oil & Gas Co.'s Marshall 1, NW SE NE 36-11s-18w, Nov., 1936. **Means of Discovery:** Trend from Walters pool. **Producing Formation:** Siliceous lime at 3650 ft. **Productive Area:** Indicated to be not less than 60 acres. **Extent of Development:** May be an extension to Walters production, although this is not yet proven through expansion of area. **Produced to 1937:** 2600 bbls. **Market Outlet:** Stanolind Pipe Line Co. **Wells Producing:** 2. **Rigs Running:** 3. **Principal Leaseholders:** Lario Oil & Gas Co., Champlin Oil & Refining Co.

PENNY WANN

Centering in T 15s, R 20w, extreme southwest Ellis County, an outpost pool of major interest. **Discovery Well:** Bradley Oil Co. et al's Penny Wann 1, SE SE SE 13-15s-20w, September, 1936. **Means of Discovery:** Surface wildcat. **Producing Formation:** Siliceous lime at 3636 ft. **Productive Area:** 50 acres. **Extent of Development:** Pool not being developed. No market outlet. **Principal Leaseholders:** Bradley Oil Co., Stanolind Oil & Gas Co.

RUDER

In T 15s, R 18w, Ellis County. **Discovery Well:** Storm King Oil Co.'s Rude 1, SE NE NW 17-15s-18w. **Means of Discovery:** Core drill and subsurface. **Structure Type:** Dome. **Producing Formations:** Kansas City lime at average 3425 ft and Siliceous lime at average 3575 ft. **Productive Area:** Indicated to be not less than 480 acres, with chance for further expansion. **Extent of Development:** Pool is not expected to be defined through scheduled drilling. Inside locations to be drilled. **Produced to 1937:** 211,110 bbls, 34 to 36 gravity. **Market Outlet:** Kaw Pipe Line Co. **Wells Producing:** 16. **Rigs Running:** 2. **Principal Leaseholders:** Galvez Oil Corp., Gulf Oil Corp., Tom Palmer, The Texas Co.

SHUTTS

In T 11 and 12s, R 17w, north central Ellis County. **Discovery Well:** Phillips Petroleum Co.'s Shutts 1, CNE 5-12s-17w, November, 1928. **Means of Discovery:** Surface indications. **Structure Type:** Anticline similar to Fairport, and with geology somewhat similar. **Producing Formations:** Kansas City lime at average of 3275 ft and Siliceous lime at average of 3575 ft. **Productive Area:** 440 acres. **Extent of Development:** Pool not yet limited as to maximum productive area. Some inside locations open. **Produced to 1937:** 1,210,100 bbls, 29 and 35 gravity. **Market Outlet:** Stanolind Pipe Line Co. **Wells Producing:** 12. **Rigs Running:** 2. **Principal Leaseholders:** Phillips Petroleum Co., T. M. Deal. **Remarks:** Has been important factor in sustaining interest in northwest extension of proven areas, northwest of Fairport, West Kansas' first pool.

SOLOMON

In T 11s, R 19w, Ellis County. **Discovery Well:** Jones et al's Solomon 1, SE SE SW 28-11s-19w, July, 1936. **Means of Discovery:** Subsurface. **Producing Formation:** Siliceous lime at 3630 ft. **Productive Area:** Not defined, estimated at 60 acres. **Extent of Development:** Single well. Immediate development may be expected. **Gravity:** 21 degrees. Small production used as fuel. **Wells Producing:** 1. **Principal Leaseholders:** Jones Brothers. **Remarks:**

The

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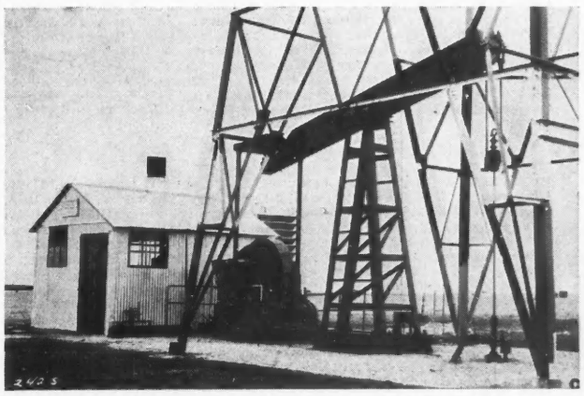
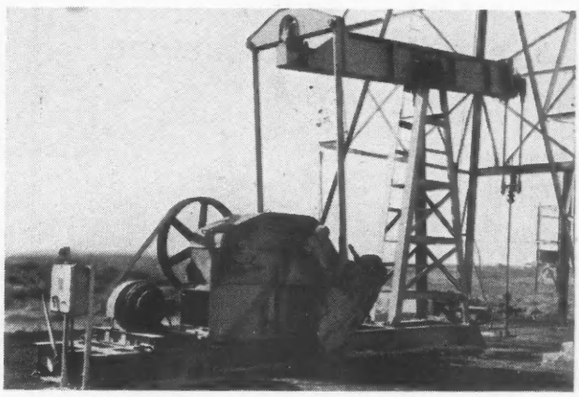
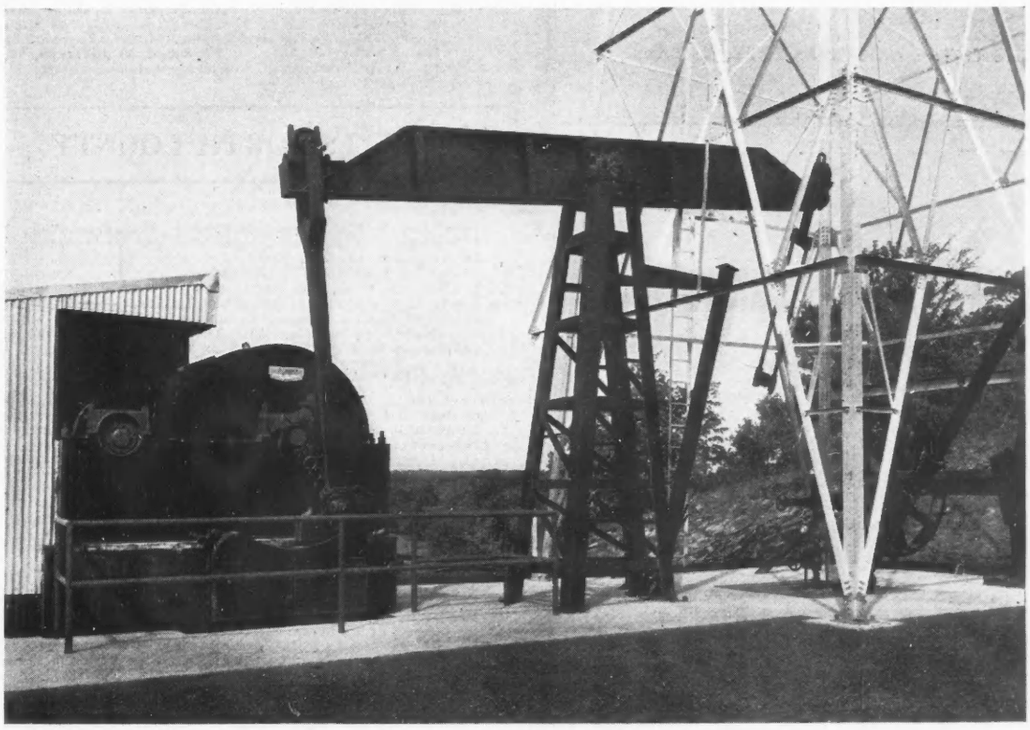


BAT SINGLE REDUCTION PUMPING UNIT
Figure 242-C. Page 1320 in 1937 Composite Catalog.



POLLY DOUBLE REDUCTION PUMPING UNIT
Page 1322 in 1937 Composite Catalog.



O C S 95-F RIG FRONT
Figure 252—Page 1311 in 1937 Composite Catalog.

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UBERT

In T 13s, R 18w, short distance northeast of Hays, Ellis County. **Discovery Well:** Bridgeport Machine Co.'s Ubert 1, NE NE NW 12-13s-18w. **Means of Discovery:** Wildcat location. **Producing Formation:** Siliceous lime at 3615 to 3619 ft. **Productive Area:** 80 acres. **Extent of Development:** One well. A test 1½ miles to south was dry. Discovery was carried to 3707 ft to water and pb to 3639 ft. **Gravity:** 22 degrees. **Wells Productive:** 1. **Principal Leaseholder:** Bridgeport Machine Co.

VICTORIA

In T 14s, R 17w, 6 miles southeast of Hays, central Ellis County. **Discovery Well:** Twin Drilling Co.'s Goetz 1, SW SW SE 3-14s-17w, December, 1935. **Means of Discovery:** Core drill. **Producing Formation:** Kansas City lime at 3300 ft and Siliceous lime at 3550 ft. **Productive Area:** 60 acres. **Extent of Development:** Although pool has not received customary development, it is considered unfavorable to great expansion. Deepest test carried to 3630 ft. **Produced to 1937:** 13,500 bbls, 33 and 35 gravity. **Market Outlet:** Kaw Pipe Line Co. **Principal Leaseholder:** Twin Drilling Co.

WALTERS

In T 12s, R 18w, north central Ellis County. **Discovery Well:** Lario Oil & Gas Co.'s Walter 1, SE NE SW 2-12s-18w, May, 1936. **Means of Discovery:** Core drill. **Producing Formation:** Topeka lime at 3100 ft and Siliceous lime at 3615 ft. **Productive Area:** Not well estimated but believed to exceed indicated 160 acres. **Extent of Development:** 2 wells, both producers. Gulf Oil Corp.'s Walter 1, SW NW SE of same section, is discovery of Siliceous production. **Produced to 1937:** 15,000 bbls, 35 gravity. **Market Outlet:** Stanolind Pipe Line Co. **Wells Producing:** 2. **Rigs Running:** 2: **Principal Leaseholders:** Lario Oil & Gas Co., Gulf Oil Corp.

YOCEMENTO

In T 13s, R 19w, Ellis County, producing from Trend of Kansas Uplift. **Discovery Well:** Phillips Petroleum Co.'s Johnson 1, SW SW NE 9-13s-19w, June, 1929. **Means of Discovery:** Surface geology. **Producing Formation:** Kansas City lime at 3590 ft and Siliceous lime at 3600 ft. **Structure Type:** Anticline. **Productive Area:** Not defined but evidently limited to 80 acres or less. **Extent of Development:** Mutual Oil Co.'s Johnson 1, an old well drilled deeper, made potential of 210 bbls from Siliceous lime at 3600 ft, Oct. 29, 1936. Active development is not expected. A previous test found water at 3684 ft. **Produced to 1937:** 60,000 bbls, 32 gravity. **Wells Producing:** 1. **Principal Leaseholders:** Mutual Oil Co., Phillips Petroleum Co.

ELLSWORTH COUNTY

BECKER

In T 17s, R 10w, Ellsworth County. **Discovery Well:** Rosenthal & Beardmore's Becker 1, NW NW SW 25-17s-10w, September, 1935. **Means of Discovery:** Core drill, combined with surface. **Producing Formation:** Siliceous lime at 3270 ft. **Productive Area:** Evidently narrow, and estimated at 200 acres. **Extent of Development:** Development at standstill by reason of indicated limited extent of productive area. **Produced to 1937:** 19,100 bbls, 44 gravity. **Market Outlet:** Kaw Pipe Line Co. **Producing Wells:** 2. **Principal Leaseholders:** Transwestern Oil Co., The Texas Co.

BREFORD

In T 17s, R 10 and 11w, southwest Ellsworth County, north flank of Central Kansas Uplift. **Discovery Well:** Slick, Pryor & Lochart's Breford 1, SW SW NW 7-17s-10w, September, 1932. **Means of Discovery:** Core drill. **Producing Formation:** Kansas City lime at 3145 ft and Siliceous lime at average 3300 ft. **Productive Area:** 140 acres. Development limited. Inside locations to be drilled. Deepest test to 3405 ft. **Produced to 1937:** 490,600 bbls, 45 gravity. **Market Outlet:** Kaw Pipe Line Co. **Producing Wells:** 7. **Principal Leaseholders:** Magnolia Petroleum Co., Transwestern Oil Co.

BREFORD (So.)

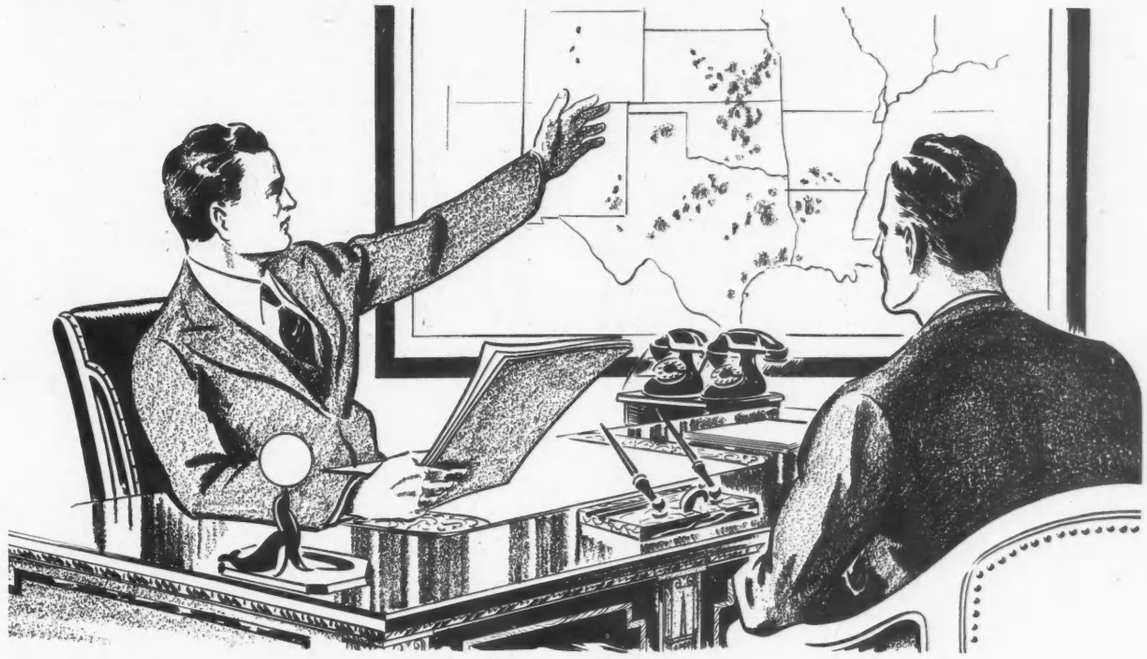
In T 17s, R 10w, southwest Ellsworth County. **Discovery Well:** Jones & Swain's Meyers 1, SW SW NW 18-17s-10w, July, 1936. **Means of Discovery:** Core drilled. **Structure Type:** Anticline. **Producing Formation:** Siliceous lime at 3290 ft. **Productive Area:** Estimated at 80 acres. **Extent of Development:** Production is not limited through normal drilled wells. **Produced to 1937:** 20,200 bbls, 45 gravity. **Market Outlet:** Kaw Pipe Line Co. **Wells Producing:** 3. **Rigs Running:** 1. **Principal Leaseholders:** Hinkle, Jones and Swain, The Texas Co., Transwestern Oil Co. **Remarks:** Closely associated with northern Breford pool, being separated only by a geologic low.

HEIKEN

In T 17s, R 10w, southwestern Ellsworth County. **Discovery Well:** Ainsworth Bros. et al's Heiken 1, NW NW NW 25-17s-10w, October, 1930. **Means of Discovery:** Core drill and surface indication. **Structure Type:** Anticline. **Producing Formation:** Siliceous lime at 3200 to 3270 ft. **Productive Area:** 200 acres, possibility of expansion. **Extent of Development:** Considered to be 80 percent developed. **Produced to 1937:** 249,700 bbls, 44 gravity. **Market Outlet:** Kaw Pipe Line Co. **Wells Producing:** 4. **Principal Leaseholders:** Central Petroleum Co., Transwestern Oil Co., Ohio Oil Co.

LORRAINE

Centering in T 17s, R 9w, southwest Ellsworth County. **Discovery Well:** Twin Drilling Co.'s Rolf 1, SW NW SW 13-17s-9w, November, 1934. **Means of Discovery:** Seismograph and geophysical. **Structure Type:** Anticline. **Producing Formations:** Kansas City



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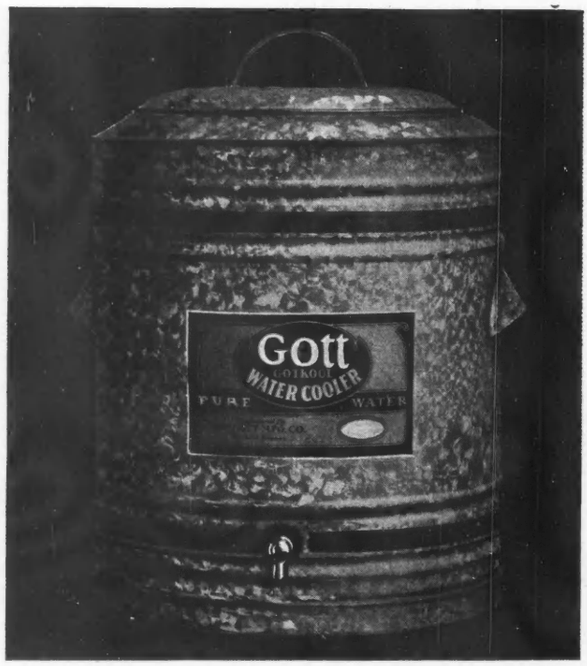


lime at 3000 to 3080 ft and Siliceous lime 3150 to 3250 ft. **Productive Area:** 2,160 acres. **Extent of Development:** Inside locations still to be drilled, extensions to area considered doubtful. Major Ellsworth County pool. **Produced to 1937:** 4,235,300 bbls, 46 gravity. **Market Outlet:** Kaw Pipe Line Co., Skelly Oil Co., Stanolind Pipe Line Co. **Wells Producing:** 86. **Rigs Running:** 4. **Principal Leaseholders:** Atlantic Refining Co., Bradley Oil Co., Carter Oil Co., Empire Oil & Refining Co., Phillips Petroleum Co., Skelly Oil Co., The Texas Co., Twin Drilling Co., Vickers Petroleum Co., Winkler and Koch.

STOLTENBERG

In T 16s, R 10w, southwestern Ellsworth County, north flank of Central Kansas Uplift. **Discovery Well:** Tom Palmer and Gulf Oil Corp.'s Stoltenberg 1, CSW 22-16s-10w, June, 1931. **Means of Discovery:** Surface indications. **Structure Type:** North to south anticline. **Producing Formation:** Siliceous lime at average depth of 3350 ft. **Productive Area:** 300 acres. **Extent of Development:** Stoltenberg pool proper is evidently defined. Indicated adjacent production has not been exploited. **Produced to 1937:** 1,807,900 bbls, 44 gravity. **Market Outlet:** Stanolind Pipe Line Co. **Wells Producing:** 15. **Principal Leaseholders:** Derby Oil Co., Gulf Oil Corp., Stanolind Oil & Gas Co., Beardmore & Rosenthal. **Remarks:** Interesting production methods being followed in this and Hilger pool as described in OIL WEEKLY for Dec. 7, 1936.

STRATMAN

In T 17s, R 10w, Ellsworth County. **Discovery Well:** Alyward et al's Stratman 1, SE NW SE 1-17s-10w, March, 1931. **Means of Discovery** Subsurface. **Structure Type:** Anticline. **Producing Formation:** Siliceous lime at 3275 ft. **Productive Area:** 380 acres. **Extent of Development:** Defined to southeast and northwest by failures. Deepest test carried to 3375 ft and plugged back. **Produced to 1937:** 1,678,800 bbls, 43 gravity. **Wells Producing:** 16. **Principal Leaseholders:** Central Petroleum Co., Derby Oil Co., El Dorado Refining Co., Robertson & Hinkle, Sinclair Prairie Oil Co.

WILKINS

In T 17s, R 9 and 10w, Ellsworth County. **Discovery Well:** Smith, Ash et al's Wilkins 1, SE SE SE 13-17s-10w, April, 1934. **Means of Discovery:** Core drill. **Producing Formation:** Siliceous lime at 3275 ft. **Productive Area:** 60 acres. **Extent of Development:** Indicated to be 50 percent limited and no activity at this time. **Produced to 1937:** 103,300 bbls, 43 gravity. **Market Outlet:** Kaw Pipe Line Co. **Principal Leaseholders:** Central Petroleum Co. Transwestern Oil Co.

HARVEY COUNTY

HALSTEAD (Including Warkentine)

In T 22 and 23s, R 2w, northwest Harvey County. **Discovery Well:** Shell Petroleum Corp.'s 1-A, NE SW SE 11-23s-2w, August, 1928. **Means of Discovery:** Core drill. **Structure Type:** Anticline. **Producing Formation:** Mississippi Chat at 3000 feet. **Productive Area:** 800 acres. May receive minor southwest extension. **Extent of Development:** This production being extended in the Warkentine area. **Produced to 1937:** 242,178 bbls, 35 gravity. **Market Outlet:** Shell Petroleum Corp. **Wells Producing:** 19. **Rigs Running:** 2. **Principal Leaseholders:** Empire Oil & Refining Co., Palmer Oil Co., Shaffer, Washoma Oil Co., Western Kansas Oil & Gas Co. **Remarks:** From slow development, Hertzler, Warkentine and Halstead, are considered one pool.

HAURY

In T 24s, R 4w, on Reno County line in Harvey County. **Discovery Well:** Turner et al's Haury 1, NE NE SW 1-23s-4w, September, 1930. **Means of Discovery:** Wildcat. **Structure Type:** Anticline. **Producing Formation:** Mississippi chat at 3350 to 3400 ft. **Productive Area:** 200 acres. Additional drilling necessary before definition. **Produced to 1937:** 15,886,700 bbls, 37 gravity. (Production combined with Burrton.) **Market Outlets:** Shell Petroleum Corp., White Eagle Refining Co., Derby Oil Co., Sinclair Prairie Pipe Line Co., Skelly Oil Co. **Wells Producing:** 16. **Rigs Running:** 1. **Principal Leaseholders:** Derby Oil Co., Empire Oil & Refining Co., Dodge, F. H. Hollow, W. C. McBride, Inc., McPherson Oil & Gas Development Co., Palmer Oil Co., Reserve Oil Co., Shell Petroleum Corp., Study-Frost et al. **Remarks:** Pool is part of Burrton.

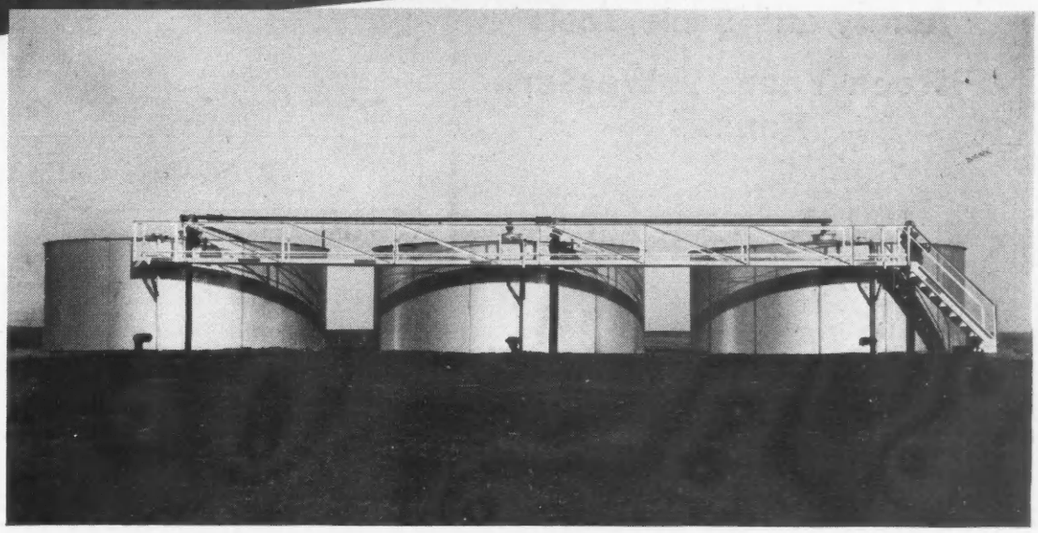
HESSTON

In T 22s, R 1w, northern Harvey County. **Discovery Well:** F. H. Hollow et al's Sommerfield 1, NW NE NW 8-22s-1w, September, 1934. **Means of Discovery:** Subsurface geology. **Structure Type:** Anticline. **Producing Formation:** Hunton lime at 3325 ft. **Productive Area:** 50 acres. **Extent of Development:** Two completions have indicated area of small production. Not being developed. **Produced to 1937:** 9,700 bbls, 39 gravity. **Market Outlet:** White Eagle Refining Co. **Wells Producing:** 1. **Principal Leaseholders:** F. H. Hollow, Derby Oil Co.

HOLLOW-NIKKEL

Centering in T 21 and 22s, R 3w, on McPherson-Harvey County line. **Discovery Well:** F. H. Hollow et al's Church 1, SW SW NW 20-22s-3w, December, 1931. **Means of Discovery:** Core drilled. **Structure Type:** Faulted anticline. **Producing Formations:** Kansas City lime at 2500 ft, Hunton lime at 3500 ft and Mississippi chat at 3300 ft. Wilcox sand productive at 3510 ft. **Productive Area:** 2,100 acres. **Extent of Development:** Delimited by normal drilling. Edges of pool indicated by decreased productivity of wells or through failures. Some locations within proved limits to be drilled. A number of tests have gone to 3800 feet without finding other production. **Produced to 1937:** 15,220,300 bbls, 43 gravity. **Market**

Galvanized TANKS AND WALKWAYS



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Outlets: White Eagle Refining Co., Sinclair Prairie Pipe Line Co., Derby Oil Co., Globe Oil & Refining Co., Shell Petroleum Corp. **Wells Producing:** 134. **Rigs Running:** 1. **Principal Leaseholders:** Acre Oil & Gas Co., Bovaird Supply Co., Derby Oil Co., Empire Oil & Refining Co., F. H. Hollow, Lario Oil & Gas Co., Lee, Mabee Consolidated Corp., Magnolia Petroleum Co., W. C. McBride, Inc., Ohio Oil Co., Shell Petroleum Corp., Sinclair Prairie Oil Co., Skelly Oil Co., Stanolind Oil & Gas Co., The Texas Co.

SCHOWALTER

In T 21 and 22s, R 1w, on Harvey-McPherson County line, northwest Harvey County. **Discovery Well:** By L. W. Prunty's Davis 1. NE NE NE 6-22s-1w, Feb., 1935. **Means of Discovery:** Core drill. **Structure Type:** Anticline. **Producing Formation:** Hunton lime at average of 3325 ft. **Productive Area:** 75 acres. **Extent of Development:** Pool is considered defined. Wilcox sand has been found dry, 3534 ft. **Produced to 1937:** 61,200 bbls, gravity 35. **Market Outlet:** Continental Oil Co. **Wells Producing:** 4. **Principal Leaseholders:** Continental Oil Co., McPherson Oil & Gas Development Co.

SPERLING

In T 22s, R 2w, northwest Harvey County. **Discovery Well:** Imo Oil Co. et al's Sperling 1, SE NE NE 23-22s-2w, February, 1935. **Means of Discovery:** Subsurface geology. **Structure Type:** Anticline. **Producing Formations:** Hunton lime 3300 ft, Wilcox sand 3450 ft. Chat is productive of gas. **Productive Area:** 280 acres. **Extent of Development:** Pool is expected to receive expansion. **Wells Producing:** 1. **Produced to 1937:** 62,230 bbls, 35 gravity. **Market Outlet:** White Eagle Refining Co. **Principal Leaseholders:** Imo Oil & Gas Co., Selby Oil & Gas Co., Sunray Oil Co.

KINGMAN COUNTY

CUNNINGHAM

In T 27s, R 10 and 11w, on the Pratt-Kingman County line. **Discovery Well:** Skelly Oil Co.'s Miles 1, NEc 30-27s-10w, January, 1931. **Means of Discovery:** Core drill. **Structure Type:** Anticline, faulted. **Producing Formations:** Kansas City lime, 3400 ft, Siliceous lime 4125 ft. **Productive Area:** 720 acres. **Extent of Development:** Pool apparently defined through orderly development. Some inside locations not drilled. Effort being made to extend to southwest. **Produced to 1937:** 1,222,100 bbls, 36 gravity. **Market Outlet:** Skelly Oil Co. **Wells Producing:** 34. **Rigs Running,** 1. **Principal Leaseholders:** Skelly Oil Co. **Remarks:** Through adequate control and sustaining of initial reservoir energy by the operators by returning produced gas to pay strata, this field is one of the most modernly produced in Mid-Continent.

McPHERSON COUNTY

CANTON

In T 18s, R 1w, north and east of major production, McPherson County. **Discovery Well:** Empire Oil & Refining Co.'s Cunningham 1, SEc 18s-1w, August, 1936. **Means of Discovery:** Indicated subsurface high; trend. **Structure Type:** Anticline. **Producing Formation:** Mississippi chat, 2829 ft. **Producing Area:** Undefined, but considered to be of minor extent, estimated not over 80 acres, probably less. **Extent of Development:** One producer, limited by failures to south and east. Conditions unfavorable to expansion as shown by difficulty of completion of Cunningham 1. **Produced to 1937:** 8,220 bbls, gravity 33. **Market Outlet:** Globe Refining Co. **Wells Producing:** 1. **Principal Leaseholders:** Empire Oil & Refining Co. **Remarks:** This pool has resulted from efforts to extend Ritz-Canton production further to north and east. Dry holes indicate the major anticline subsides in this direction.

CHINBERG

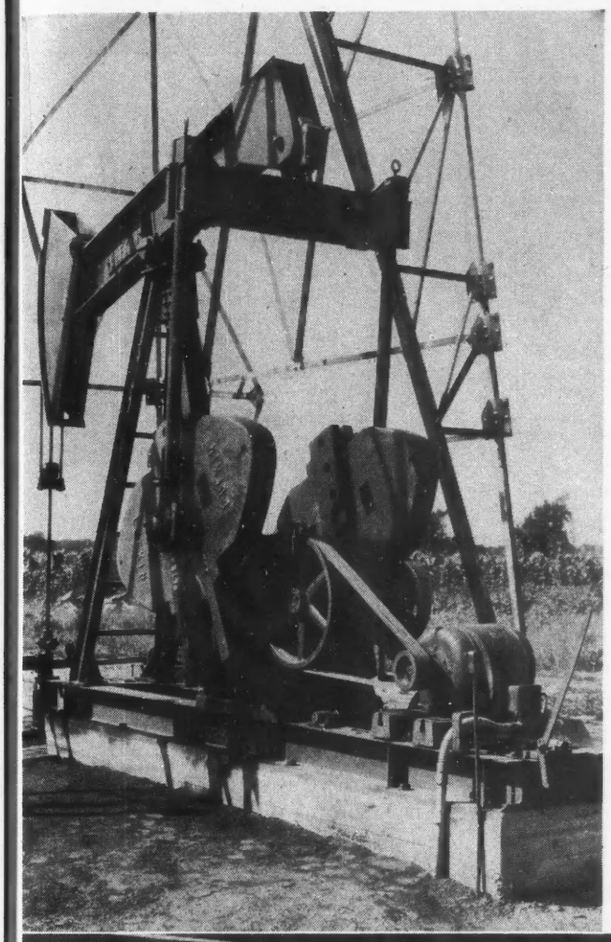
In T 19s, R 2 and 3w, in line with major productive trend in McPherson County. **Discovery Well:** McPherson Oil & Gas Development Co.'s Chinberg 1, CNW NW 18-19s-2w, gas, October, 1929. Mid-Kansas Oil & Gas Co.'s Chinberg 1, 13-19s-3w, oil, December, 1933. **Structure Type:** Dome. **Producing Formation:** Mississippi chat, 3010 ft, Kansas City lime, 2360 ft. **Productive Area:** 550 acres. **Extent of Development:** Pool considered defined, but inside locations to be drilled. **Produced to 1937:** 672,000 bbls, 37 gravity. **Market Outlets:** Dickey Refining Co., Globe Oil & Refining Co., Sinclair Prairie Pipe Line Co. **Wells Producing:** 19. **Principal Leaseholders:** T. C. Johnson, Dickey Oil Co., The Texas Co., Ohio Oil Co.

GRABER

In T 21s, R 1w, in major productive trend of McPherson County. **Discovery Well:** Continental Oil Co.'s Braber 1, NE NE NW 32-21s-1w, May, 1934. **Means of Discovery:** Core drill. **Structure Type:** Anticline. **Producing Formation:** Hunton lime, 3300 to 3359 ft. **Productive Area:** 880 acres. **Extent of Development:** Pool believed defined. Few inside locations to be drilled. Production is on trend that is being extended to southwest at this time. Siliceous lime tested dry. **Produced to 1937:** 327,700 bbls, 41 gravity. **Market Outlet:** White Eagle Refining Co. **Producing Wells:** 57. **Rigs Running:** 7. **Principal Leaseholders:** Continental Oil Co., Derby Oil Co., Dickey Oil Co., Ohio Oil Co. **Remarks:** Some wells have made 20,000,000 cu ft gas from Hunton lime. Numerous efforts to extend this definite northeast-southwest production trend have been unsuccessful within past two years.

JOHNSON

In T 19 and 20s, R 3w, pool trend in McPherson County. **Discovery Well:** Shell Petroleum Corp.'s Johnson 1, SE SW SW 35-19s-3w, February, 1932. **Means of Discovery:** Core drill. **Structure Type:** Faulted anticline. **Producing Formation:** Mississippi chat 3,000 ft. **Productive Area:** Estimated to slightly exceed 1,000 acres. **Extent of Development:** Limited to north, northeast and southwest by failures. Inside locations to be drilled. **Produced to 1937:** 1,741,000 bbls, 37 gravity. **Market Outlets:** Globe Oil & Refining Co., Dickey Refining Co., Shell Petroleum Corp. **Wells Producing:** 17. **Princi-**



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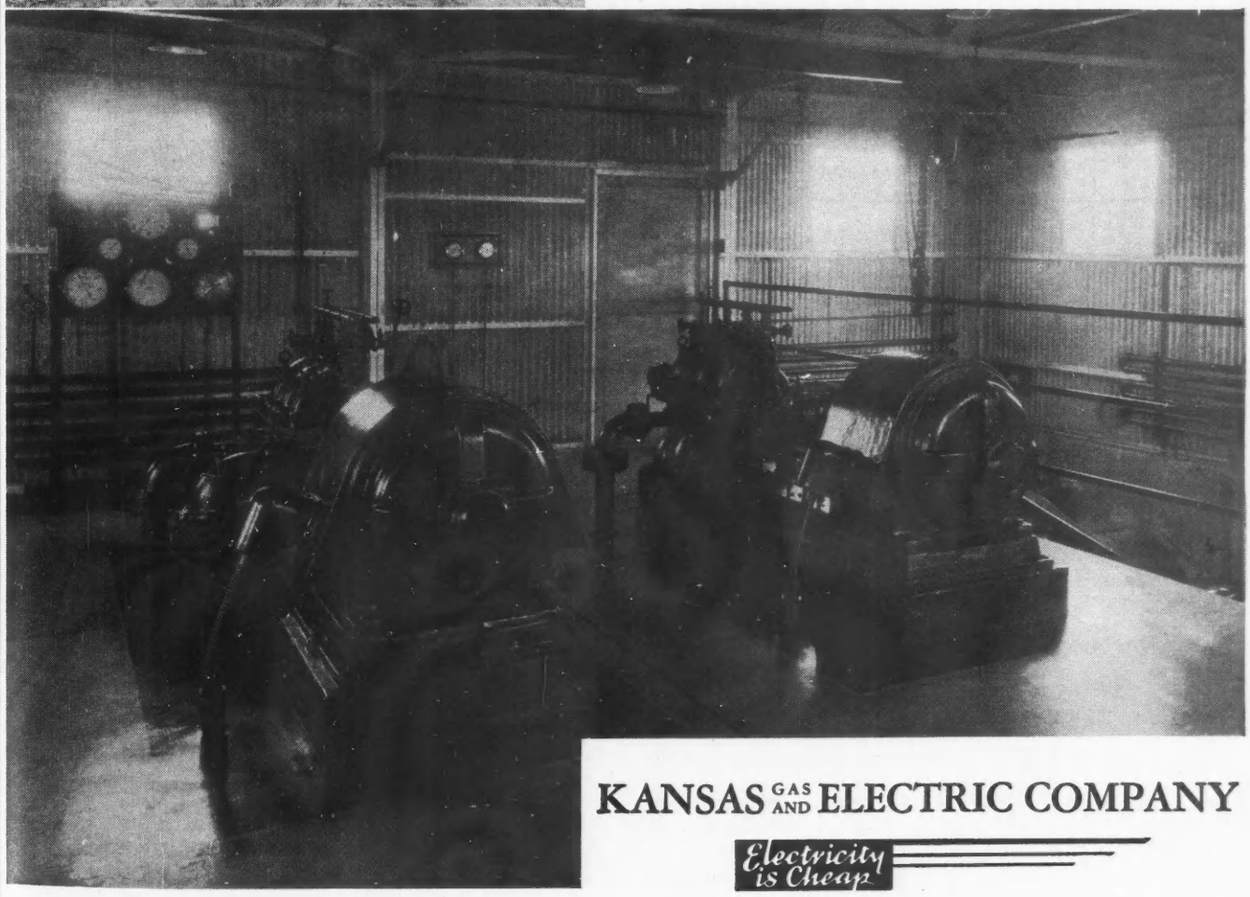

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McPHERSON

In T 18 and 19s, R 2w, on productive trend, McPherson County. **Discovery Well:** Merriam, Reeves and Shidel's Andersor 1, CSW 29-18s-2w; September, 1926. **Structure Type:** Dome. **Producing Formation:** Kansas City lime, 2300 ft to 2400 ft, Mississippi chat, 2900 to 3000 ft. **Productive area:** 800 acres. **Extent of Dexelopment:** Pool well developed; few locations to be drilled. Some chat producers being plugged back to Kansas City lime. **Produced to 1937:** 408,500 bbls, 35 to 40 gravity. **Market Outlets:** Dickey Refining Co., Sinclair Prairie Pipe Line Co. **Wells Producing:** 35. **Principal Leaseholders:** McPherson Oil Co., Ohio Oil Co., Mead, Tom Palmer, Northfield Oil Co., Rosenthal & Beardmore, Sunray Oil Co., Rush Oil Co., Sinclair Prairie Oil Co., Wayne & R. E. Youker.

RITZ

Centering in T 19 and 20s, R 1 and 2w, on major productive trend in McPherson County. **Discovery Well:** McPherson Oil & Gas Development Co.'s Wedel 1, CSW 12-20s-2w; January, 1929. **Means of Discovery:** Core drill. **Structure Type:** Compound dome. **Producing Formations:** Mississippi chat, 2950 ft, average; Viola lime, average 3410 ft, and Wilcox sand, 3450 ft. **Productive Area:** 17,330 acres. **Extent of Development:** This pool is developed to near completion. **Produced to 1937:** 27,004,700 bbls, 32 gravity. **Market Outlets:** White Eagle Refining Co., Shell Petroleum Corp., Globe Oil & Refining Co., Skelly Oil Co., Stanolind Oil Co., Sinclair Prairie Pipe Line Co., Standish Pipe Line Co. **Wells Producing:** 259. **Rigs Running:** 5. **Principal Leaseholders:** Alben Oil Co., Aikman, Bennett and Wolfe, Boyle-Grossman, Breslin, E. K. Carey, Darby Petroleum Co., Derby Oil Co., Dickey Refining Co., Dieter-Youker Co., Dow, General Petroleum Co., Gleason, Gulf Oil Corp., Gussman, Harris & Haun, Helmerich & Payne, Hutchinson, Johnson, Kanoka Oil Co., Lario Oil & Gas Co., W. C. McBride, Inc., McPherson Oil & Gas Development Co., Nadel, Ohio Oil Co., Olson Drilling Co., Tom Palmer, Phillips Petroleum Co., Regina Oil & Gas Co., Progressive Oil Co., Reserve Petroleum Co., Rush Oil Co., Salina Oil Co., E. B. Shawver, Shell Petroleum Corp., J. W. Stanley, Stanolind Oil & Gas Co., Stearns & Streeter, Syndicate Oil & Gas Co., The Texas Co., United-Keys, Wakefield, Washoma Oil & Gas Co., Wheeler-Kelly and Harney, Wolf Creek Oil Co.

VOSHELL

Centering in T 20 and 21s, R 3w, in line of major production of McPherson County. **Discovery Well:** Washabaugh et al's Voshell 1, NEc 9-21s-3w; August, 1929. **Means of Discovery:** Core drill. **Structure Type:** Faulted anticline. **Producing Formation:** Mississippi chat, 3100 ft, Viola lime, 3330 ft, Wilcox sand, 3325 to 3400 ft and Siliceous lime, 3400 ft. **Productive Area:** 1580 acres. **Extent of Development:** Pool is considered defined. Few inside locations to be drilled. **Produced to 1937:** 20,132,200 bbls, 36 and 42 degrees gravity. **Market Outlet.** Shell Petroleum Corp., Derby Oil Co., White Eagle Refining Co., Skelly Oil Co. **Wells Producing:** 127. **Principal Leaseholders:** Acre Oil & Gas Co., All State Petroleum Co., Argo Oil & Gas Co., Barnsdall Oil Co., Coronado Petroleum Co., Derby Oil Co., Empire Oil & Refining Co., Gulf Oil Corp., Harburney Oil Co., Indian Territory Illuminating Oil Co., W. C. McBride, Inc., Ohio Oil Co., Rose Spring Drilling Co., Shell Petroleum Corp., Sinclair Prairie Oil Co., Stanolind Oil & Gas Co., The Texas Co., Transwestern Oil Co., Warren Petroleum Corp., Wilhelm-Nye.

NESS COUNTY

ALDRICH

In T 18s, R 25 and 26w, west central Ness County, in Dodge City Basin. **Discovery Well:** Continental Oil Co.'s Aldrich 1, NE NE SE 7-18s-25w, November, 1929. **Means of Discovery:** Core drill based on surface indications. **Structure Type:** Normal anticline. **Producing Formation:** Basal conglomerate, 4325 ft. **Producing Area:** Undefined, estimated over 200 acres. **Extent of Development:** Limited through lack of outlet. **Deepest Test:** Continental Oil Co.'s Thompson 1, 13-18s-26w, pb from 4527 to 4492 ft. **Produced to 1937:** 14,460 bbls, 33 gravity. **Market Outlet:** Trucks to Kaw Pipe Line Co. **Wells Producing:** 1. **Principal Leaseholders:** Continental Oil Co. **Remarks:** Late production average 2 bbls daily, although wells capable of much greater output. Locations of 2 wells in pool indicate structure may exceed 2 miles in length.

THOMPSON

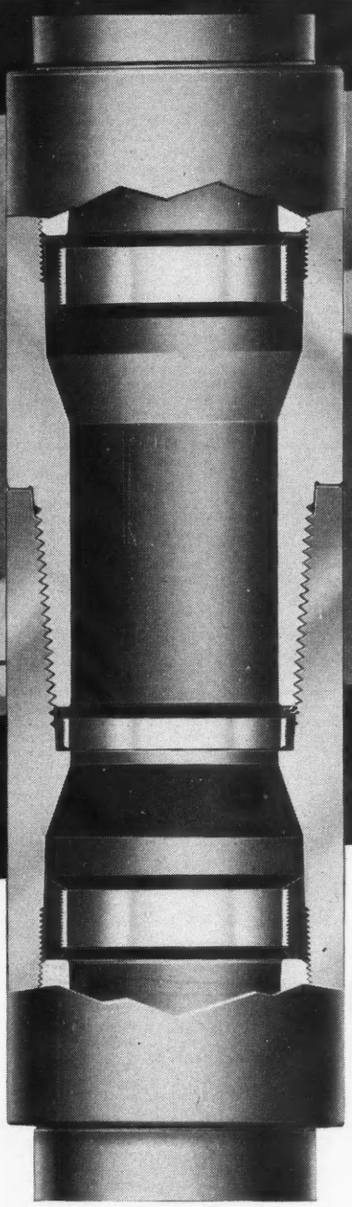
In T 18s, R 26w, this pool is considered as individual, although it is included under Aldrich. Production spot in western Ness County. **Discovery Well:** Continental Oil Co.'s Thompson 1, CE¼ E½ SW 13-18s-26w, July, 1936. **Means of Discovery:** Subsurface. **Producing Formation:** Siliceous lime, 4500 ft. **Productive Area:** Unindicated by development. **Production to 1937:** 4127 bbls, gravity 36. **Market Outlet:** Truck to Kaw Pipe Line Co. **Wells Producing:** 1 (at present non-productive). **Principal Leaseholder:** Continental Oil Co.

PAWNEE COUNTY

PAWNEE ROCK

In T 20s, R 16w, northeast Pawnee County, southwest flank Central Kansas Uplift. **Discovery Well:** Simpson Oil Co.'s Gates 1, SWc 13-20s-16w, September, 1936. **Means of Discovery:** Seismograph. **Producing Formation:** Siliceous lime, 3840 ft. **Productive Area:** 60 acres. **Extent of Development:** Single well. A test 2½ miles southwest failure at 4140 feet. Gravity crude 36 degrees. **Oil Outlet:** Falcon Refining Co. (by trucks). **Principal Leaseholder:** Simpson Oil Co.

HINDERLITER



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RENO COUNTY

ABBYVILLE

In T 24s, R 7 and 8w, Reno County. **Discovery Well:** Skelly Oil Co. et al's Smith 1, CSW 24-24s-8w, January 1927. **Structure Type:** Anticline. **Producing Formation:** Kansas City lime, 3540 ft. **Productive Area:** 100 acres. **Extent of Development:** As is evidenced by present wells, the pool is defined. **Deepest Test:** Carried to Siliceous lime at 4247 ft; dry. **Produced to 1937:** 234,150 bbls; 37 gravity. **Market Outlet:** Skelly Oil Co. **Wells Producing:** 4. **Principal Leaseholders:** Skelly Oil Co., Duwe & Dustin, Siegrist & Miller. **Remarks:** Admire shale at 2200 ft is gas productive.

BURRTON

Centering in T 22, 23 and 24s, R 3 and 4w, northeast Reno County on trend from McPherson County. **Discovery Well:** Shell Petroleum Corp. and Continental Oil Co.'s Blake 1, SW SE SE 23-23s-4w, April, 1931. This well made gas but no oil until deepened a year later. **Means of Discovery:** Core drill. **Structure Type:** Faulted anticline. **Producing Formations:** Mississippi chat, 3370 ft, Hunton lime, 3590 ft, and Siliceous lime, 3780 ft. **Productive Area:** 7000 acres. **Extent of Development:** Comparatively swift development of upper strata. Siliceous lime possibilities have not been thoroughly investigated. **Produced to 1937:** 15,886,700 bbls, in combination with Haury. **Gravity of Crude:** 37 and 42 degrees. **Wells Producing:** 324. **Rigs Running 22. Principal Leaseholders:** Amerada Petroleum Corp., Barnsdall Oil Co., Deal Oil & Gas Co., Derby Oil Co., Dickey Oil Co., Empire Oil & Refining Co., Falcon-Seaboard Oil Co., Gled Oil Co., Skelly Oil Co., Gulf Oil Corp., Hartman & Blair, McPherson Oil & Gas Development Co., National Union Oil Co., Nye Oil Co., Ohio Oil Co., Olson Oil Co., Phillips Petroleum Co., Shell Petroleum Corp., Sinclair Prairie Oil Co., Skelly Oil Co., Stanolind Oil & Gas Co., The Texas Co., Tidewater Oil Co., H. F. Wilcox Oil & Gas Co. **Remarks:** Second in present Kansas production as indicated by weekly pipe line runs, will produce from 3 horizons for many years. Market outlets are same as listed for Haury pool.

HAVEN

In T 24s, R 4w, Reno County. **Discovery Well:** Haynes et al's Mueller 1, SE SE NW 30-24s-4w, September, 1935. **Means of Discovery:** Core Drill. **Structure Type:** Anticline. **Producing Formation:** Mississippi chat, 3380 ft. **Productive Area:** 400 acres. **Extent of Development:** Until March of 1937 this pool was indicated as being confined to a small area. During the middle of that month, Sinclair Prairie Oil Co.'s Kaufman 1, SWc ŁE 18-24s-4w, became a commercial producer 1½ miles north of Haven pool from chat at 3388½ ft. **Produced to 1937:** 38,900 bbls, 38 gravity. **Market Outlet:** Derby Oil Co. **Wells Producing:** 3. **Rigs Running:** 4. **Principal Leaseholders:** Haynes et al, Ohio Oil Co., Sinclair Prairie Oil Co.

HILGER

In T 26s, R 4w, Reno County. **Discovery Well:** Stanolind Oil & Gas Co. and Amerada Petroleum Corp.'s Hilger 1, SE SE NW 16-26s-4w, April, 1934. **Means of Discovery:** Core drill and seismograph. **Structure Type:** Low dome. **Producing Formation:** Viola lime, average 4000 ft. **Productive Area:** 480 acres. **Extent of Development:** Completely defined. **Produced to 1937:** 418,900 bbls, 40 gravity. **Market Outlet:** Stanolind Pipe Line Co. **Principal Leaseholders:** Stanolind Oil & Gas Co., Magnolia Petroleum Co., Amerada Petroleum Corp., Derby Oil Co., Rose Spring Drilling Co. **Wells Producing:** 22. **Rigs Running:** 3.

LERADO

In T 26s, R 9w, southwestern Reno County. **Discovery Well:** Shell Petroleum Corp.'s Reese 1, C W½ W½ SW 11-26s-9w, November, 1935. **Means of Discovery:** Core drill. **Structure Type:** Anticline. **Producing Formation:** Viola lime, average 4125 to 4150 ft. **Producing Area:** 700 acres. **Extent of Development:** A number of inside locations to be drilled, and possibility exists that pool may be extended. **Produced to 1937:** 347,800 bbls, 40 gravity. **Market Outlet:** Skelly Oil Co. **Wells Producing:** 22. **Rigs Running:** 6. **Principal Leaseholders:** Shell Petroleum Corp., Empire Oil & Refining Co., Ohio Oil Co.

YODER

In T 24s, R 5w, southeast of Hutchinson, Reno County. **Discovery Well:** McPherson Drilling Co.'s Miller 1, NE NE NW 34-24s-5w, October, 1935. **Means of Discovery:** Core drill. **Structure Type:** Anticline. **Producing Formation:** Mississippi chat, 3400 to 3500 ft. **Productive Area:** 280 acres. **Extent of Development:** Slow development due primarily to small initial production. Limited by failures to north and south. **Produced to 1937:** 25,700 bbls, 36 gravity. **Market Outlet:** Derby Oil Co. **Wells Producing:** 5. **Principal Leaseholders:** Derby Oil Co., Empire Oil & Refining Co., Ohio Oil Co., McPherson Drilling Co.

RICE COUNTY

BOWMAN

In T 34s, R 10w. **Discovery Well:** Simpson & Noble Drilling Co.'s Bowman 1, SW SW NW 22-19s-10w, August, 1936. **Means of Discovery:** Subsurface studies. **Type Structure:** Anticline.

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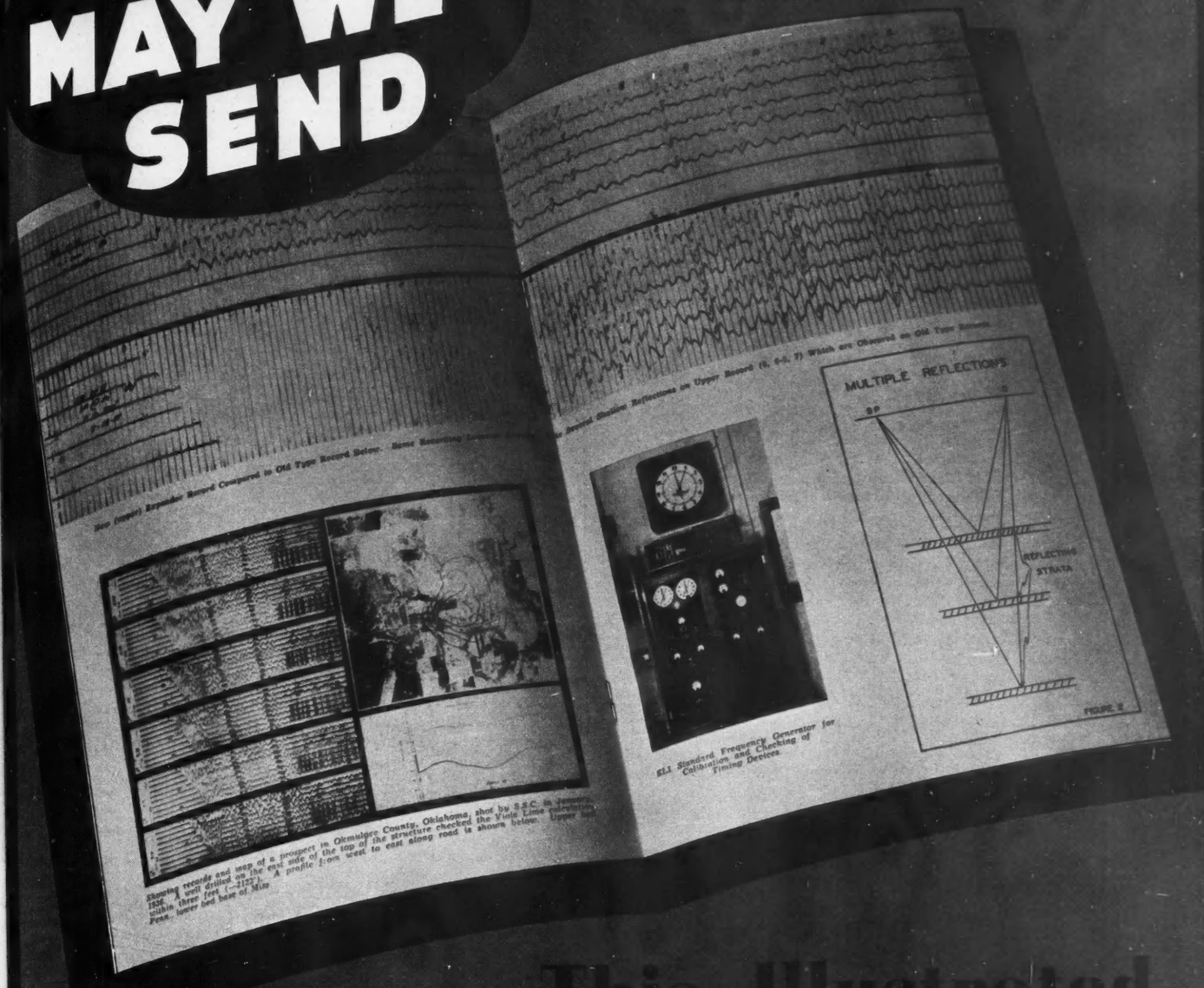

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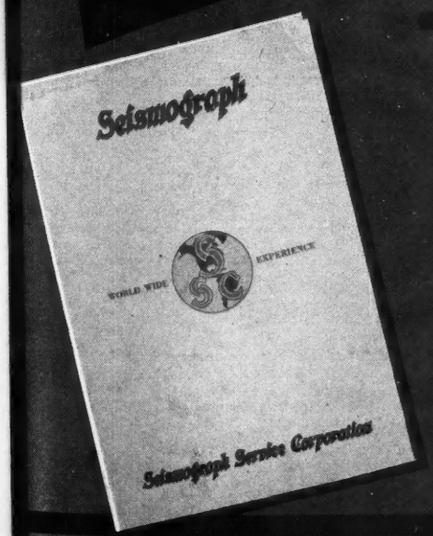

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Producing Formation: Siliceous lime, average 3290 ft. **Extent of Development:** One well producing, 80 acres, dry holes 1½ miles northeast. These separate the field from the Doran field. **Deepest Test:** Discovery, plugged back from 3305 ft. Field now inactive with no pipe line outlet. **Principal Leaseholder:** Simpson & Noble Drilling Co. **Remarks:** Producing well established potential of only 58 bbls. with 10 bbls. of water. Small production will not encourage further development.

BRANDENSTEIN

In T 19s, R 10w. **Discovery Well:** Atlantic Refining Co.'s Brandenstein 1, C SE SE 10-19s-10w, November, 1933. **Means of Discovery:** Core drill and seismograph. **Type of Structure:** Dome. **Producing Formation:** Kansas City lime, 3018 ft. **Producing Area:** 90 acres. **Deepest Test:** Siliceous lime was dry. **Produced to 1936:** 278,000 bbls, 44 gravity. **Outlet:** Stanolind Pipe Line Co. **Producing Wells:** 2. **Principle Leaseholder:** Atlantic Refining Co. **Remarks:** Considered limited in area, no effort made to determine extent.

CHASE

In T 19 and 20s, R 9w. **Discovery Well:** Ramsey Petroleum Co. et al's School lot 1, NW SW NW 32-19s-9w, December, 1932. **Means of Discovery:** Core drill. **Type of Structure:** Anticline. **Producing Formation:** Arbuckle lime, 3200 ft. **Producing Area:** 800 acres. **Extent of Development:** Field has been defined by drilling. **Produced to 1937:** 13,368,435 bbls, 45 gravity. **Outlets:** Kaw Pipe Line Co., Sinclair Prairie Pipe Line Co.,Skelly Oil Co., Falcon Refining Co. **Producing Wells:** 213. **Principal Leaseholders:** Central Petroleum Co., Continental Oil Co., Davis-Bell Oil Co., Derby Oil Co., Empire Oil & Refining Co., Gulf Oil Corp., Lario Oil & Gas Co., Magnolia Petroleum Co., National Refining Co., Ohio Oil Co., Phillips Petroleum Co., Ramsey Petroleum Co., Robertson, Hinkel & Sacco, Shell Petroleum Corp., Sinclair Prairie Oil & Gas Co., Skelly Oil Co., The Texas Co., Torrey & Feaster.

DORAN

In T 19s, R 10w. **Discovery Well:** John Starks et al's Doran 1, NEc SE 13-19s-10w, October, 1936. **Means of Discovery:** Surface and subsurface geology. **Producing Formation:** Siliceous lime. **Producing Area:** 80 acres. **Extent of Development:** One producing well; north offset aband 3324 ft. **Produced to 1937:** 10,700 bbls. **Oil Outlet:** Kaw Pipe Line Co. **Producing Wells:** 2. **Principal Leaseholders:** Atlantic Refining Co., Ohio Oil Co., John Starks et al.

EDWARDS

In T 17 and 18s, R 8w. **Discovery Well:** C. E. Skiles et al's Edwards 1, NW NW NE 3-18s-8w, March, 1936. **Means of Discovery:** Subsurface studies. **Type of Structure:** Dome. **Producing Formation:** Siliceous lime, found from 3300 to 3360 ft. **Producing Area:** 880 acres. **Extent of Development:** Limited on east by dry holes. Producing area quickly developed, further expansion possible. **Deepest Test:** 3422 ft, dry in Siliceous lime. **Produced to 1937:** 187,000 bbls; 41 gravity. **Oil Outlet:** Kaw Pipe Line Co., Continental Oil Co. **Producing Wells:** 24. **Principal Leaseholders:** Continental Oil Co., C. B. Davis, Empire Oil & Refining Co., C. E. Skiles et al.

EMPIRE

In T 20s, R 9w. **Discovery Well:** Empire Oil & Refining Co.'s Young 1, SW SW SE 8-20s-9w, June, 1936. **Means of Discovery:** Following trend. **Producing Formation:** Siliceous lime, 3275 ft. **Producing Area:** 100 acres. **Extent of Development:** Only partly defined, dry holes drilled south of production. **Produced to 1937:** 30,000 bbls; 43 gravity. **Oil Outlet:** Kaw Pipe Line Co. **Wells Producing:** 5. **Principal Leaseholder:** Empire Oil & Refining Co.

GALT

In T 18s, R 7w. **Discovery Well:** Continental Oil Co.'s Ferguson 1, SW SW NE 8-18s-7w. **Means of Discovery:** Core drill. **Type of Structure:** Anticline. **Producing Formation:** Siliceous lime, 3225 ft. **Producing Area:** 80 acres. **Extent of Development:** 1 well producing, none drilling. **Produced to 1937:** 12,000 bbls; 41 gravity. **Oil Outlet:** Continental Oil Co. **Principal Leaseholder:** Continental Oil Co.

GENESSO

In T 18s, R 8w. **Discovery Well:** Continental Oil Co.'s Lansing 1, NW NW SE 25-18s-8w, May, 1934. **Means of Discovery:** Core drill. **Type of Structure:** Dome. **Producing Formation:** Siliceous lime, 3200 to 3310 ft. **Producing Area:** 420 acres. **Extent of Development:** Additional drilling of inside locations due this year. **Produced to 1937:** 726,100 bbls; 39 gravity. **Oil Outlets:** Kaw Pipe Line Co., Continental Oil Co. **Wells Producing:** 28. **Principal Leaseholder:** Continental Oil Co. **Remarks:** Wilcox sand productive over part of field as indicated by wells drilled to Siliceous lime. Present wells may be plugged back later to gain production from Wilcox sand.

GULDNER

In T 18s, R 9w. **Discovery Well:** Vickers Petroleum Co.'s Gardner 1, SE SE NW 16-18s-9w. **Means of Discovery:** Seismograph. **Type of Structure:** Dome. **Producing Formations:** Kansas City lime, 2900 to 3100 ft, Siliceous lime, 3100 to 3225 ft. **Producing Area:** 400 acres. **Extent of Development:** Field not defined as to area and inside locations not all drilled. **Produced to 1937:** 145,100 bbls; 45 gravity. **Oil Outlet:** Kaw Pipe Line Co. **Producing Wells:** 7. **Principal Leaseholders:** Empire Oil & Refining Co., Jayhawk Oil Co., Phillips Petroleum Co., Vickers Petroleum Co.

HAFERMAN

In T 19s, R 9w. **Discovery Well:** Shell Petroleum Corp.'s Haferman 1, C NH NH SE 6-19s-9w, August, 1936. **Means of Discov-**

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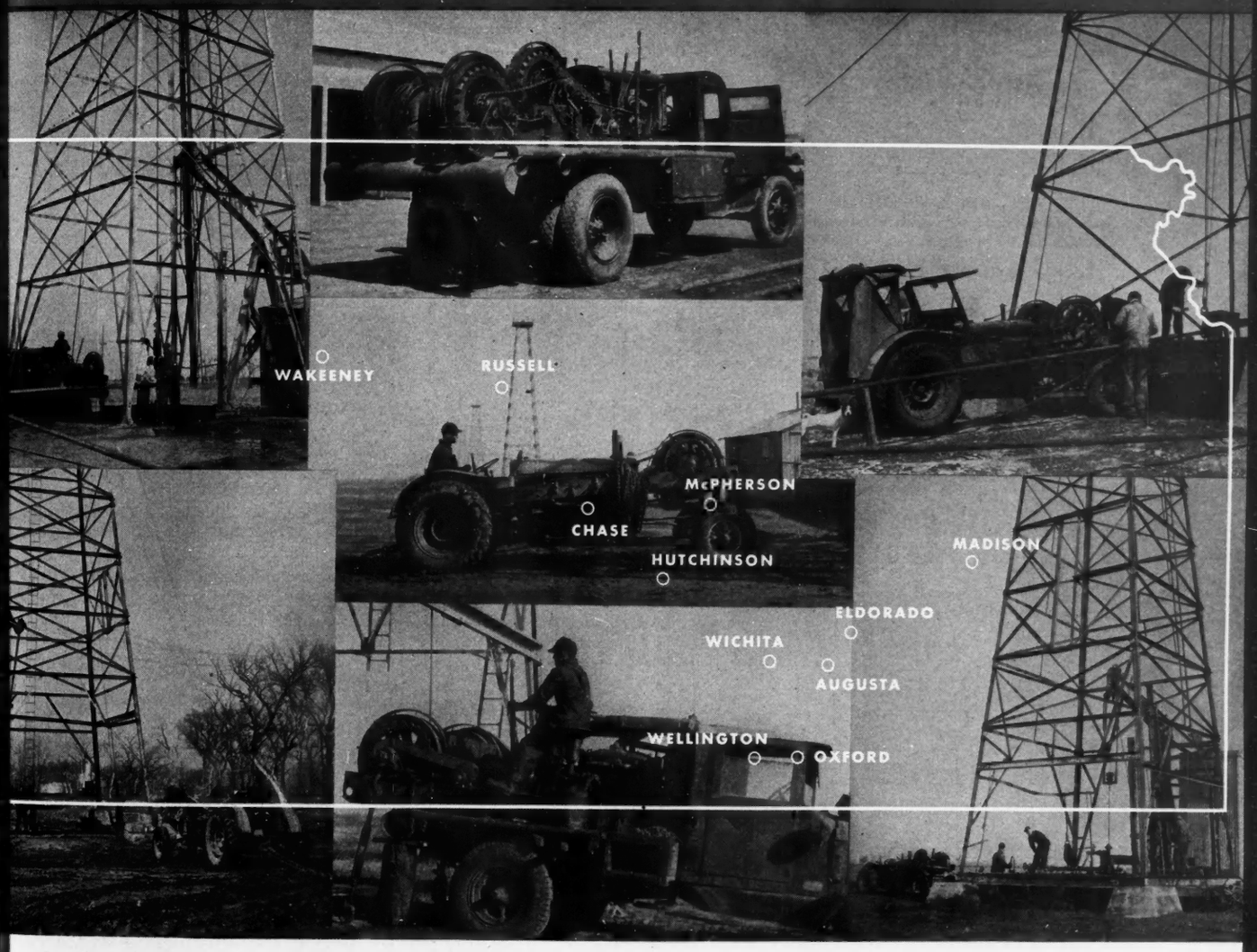

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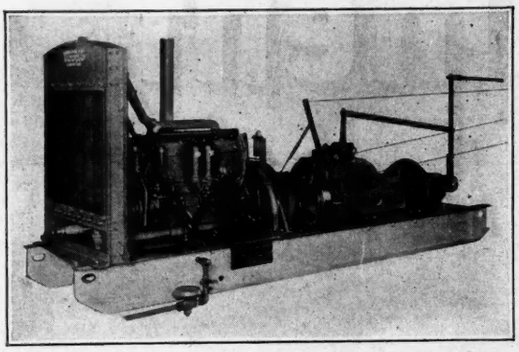

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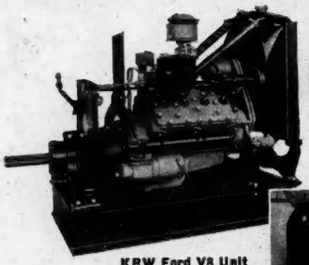

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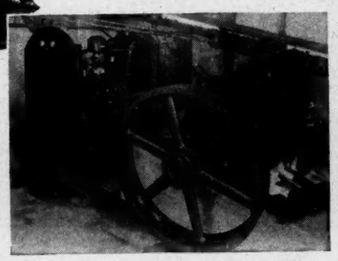

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ery: Geological trend. **Producing Formation:** Siliceous lime, 3220 to 3270 ft. **Producing Area:** 300 acres. **Extent of Development:** Field being slowly drilled. **Produced to 1937:** 54,500 bbls; 48 gravity. **Oil Outlet:** Kaw Pipe Line Co. **Producing Wells:** 7. **Rigs Running:** 1. **Principal Leaseholders:** Shell Petroleum Corp., Sinclair Prairie Oil Co. **Remarks:** Dry hole betwen this field and Brandenstein field to the west. Extensions still possible in other directions.

HAUSCHILD

In T 21s, R 7w. **Discovery Well:** Douglas Oil & Gas Co.'s Hauschild 1, NE NE NW 15-21s-27w, May, 1936. **Means of Discovery:** Core drill. **Type of Structure:** Monocline. **Producing Formation:** Conglomerate, 3550 to 3390 ft. **Producing Area:** 780 acres. **Extent of Development:** Under consistent drilling, which has been under way since discovery. **Deepest Test:** Well drilled to Siliceous lime not productive. **Produced to 1937:** 408,400 bbls; 36 gravity. **Oil Outlets:** Kaw Pipe Line Co., Skelly Oil Co. **Wells Producing:** 25. **Rigs Running:** 4. **Principal Leaseholders:** Darby Petroleum Co., T. M. Deal Oil & Gas Co., Derby Oil Co., Douglas Oil & Gas Co., Garden et al, McPherson Oil Co., Shaffer et al. **Remarks:** Porosity of formation accounted for unusual high yield. Douglas Oil & Gas Co.'s Hauschild 2, established potential of 15,149 bbls, highest ever recorded for western Kansas.

KEESLING

In T 20s, R 9w. **Discovery Well:** Gulf Oil Corp.'s Keesling 1, NW NW SW 10-20s-9w, August, 1935. **Means of Discovery:** Seismograph. **Type of Structure:** Anticline. **Producing Formation:** Siliceous lime, 3210 to 3300 ft. **Producing Area:** 580 acres. **Extent of Development:** Limits of field considered defined, inside locations to be drilled. **Produced to 1937:** 1,116,500 bbls; 42 gravity. **Oil Outlets:** Kaw Pipe Line Co., Skelly Oil Co. **Wells Producing:** 39. **Principal Leaseholders:** Gulf Oil Corp., Herndon Drilling Co., Magnolia Petroleum Co., Mid-Continent Petroleum Corp., Sinclair Prairie Oil Co., Stanolind Oil & Gas Co.

ORTH

In T 18s, R 10w. **Discovery Well:** Transwestern Oil Co.'s Orth 1, SE SE NE, 27-18s-10w, July, 1932. **Means of Discovery:** Core drill. **Type of Structure:** Dome. **Producing Formations:** Siliceous lime 3225 to 3250 ft; conglomerate, 3240 to 3300 ft. **Producing Area:** 180 acres. **Extent of Development:** Field nearing maximum development. **Produced to 1937:** 338,700 bbls; 45 gravity. **Oil Outlet:** Kaw Pipe Line Co. **Wells Producing:** 9. **Rigs Running:** 1. **Principal Leaseholders:** Hays & Hinkle, Skelly Oil Co., Transwestern Oil Co.

PLOOG

In T 18s, R 9w. **Discovery Well:** J. H. Tatlock's Ploog 1, C SW SE 33-18s-9w, July, 1930. **Type of Structure:** Anticline. **Producing Formation:** Siliceous lime, 3250 ft. **Producing Area:** 550 acres. **Extent of Development:** Northwest limit evidently defined by dry hole, now used for water disposal. In other directions field may be extended. Present productive area not drilled up. No drilling in progress. **Produced to 1937:** 304,300 bbls; 47 gravity. **Oil Outlets:** Kaw Pipe Line Co. **Wells Producing:** 10. **Principal Leaseholders:** Carter Oil Co., Empire Oil & Refining Co., Shell Petroleum Corp., J. H. Tatlock.

PONCE

In T 21s, R 7w. **Discovery Well:** Day et al's Ponce 1, NW NE NE 28-21s-27w, June, 1936. **Means of Discovery:** Following trend. **Type of Structure:** Monocline. **Producing Formation:** Chat, 3400 ft. **Producing Area:** 80 acres. **Extent of Development:** 1 well producing. Area indicates that other wells will be found productive, although dry holes are nearby. **Produced to 1937:** 4000 bbls; 36 gravity. **Oil Outlet:** White Eagle Oil Corp. **Wells Producing:** 1. **Rigs Running:** 1. **Principal Leaseholder:** Day et al.

RAYMOND

In T 20s, R 10w. **Discovery Well:** Steinbuschel et al's Schurr 1, NE NE SW 21-20s-10w, July, 1929. **Means of Discovery:** Surface geology. **Type of Structure:** Dome. **Producing Formations:** Kansas City lime, Conglomerate, Siliceous lime. **Producing Area:** 720 acres. **Extent of Development:** Field apparently defined. **Produced to 1937:** 4,261,100 bbls; 41 and 43 gravity. **Oil Outlets:** Sinclair Prairie Pipe Line Co., Skelly Oil Co., Stanolind Pipe Line Co. **Wells Producing:** 58. **Principal Leaseholders:** Atlantic Refining Co., Empire Oil & Refining Co., Holbart Oil Co., T. J. Palmer, Phillips Petroleum Co., Sinclair Prairie Oil Co., Skelly Oil Co., The Texas Co., Transwestern Oil Co., Vickers Petroleum Co.

RICKARD

In T 18s, R 9w. **Discovery Well:** Aylward et al's Rickard 1, SW SW NW 22-18s-9w, Sept., 1935. **Means of Discovery:** Sub-surface geology. **Producing Formation:** Siliceous lime, 3350 ft. **Producing Area:** 200 acres. **Extent of Development:** 3 dry holes drilled to the southeast. Probable extension following trend to west. **Produced to 1937:** 17,100 bbls; 47 gravity. **Oil Outlet:** Kaw Pipe Line Co. **Wells Producing:** 1. **Principal Leaseholders:** Aylward et al, Empire Oil & Refining Co.

SAXMAN

In T 21s, R 7w. **Discovery Well:** Douglas et al's Patton 1, SWc 5-21s-7w, Dec., 1936. **Means of Discovery:** Surface trend. **Producing Formation:** Chat, 3350 ft. **Producing Area:** 140 acres. **Extent of Development:** Wells now drilling to determine extent of field. **Produced to 1937:** 16,000 bbls; 38 gravity. **Oil Outlets:** Skelly Oil Co., White Eagle Oil Corp. **Wells Producing:** 8. **Rigs Running:** 4. **Principal Leaseholders:** Atlantic Refining Co., Douglas et al, El Dorado Refining Co.

SCHARTZ

In T 19s, R 10w. **Discovery Well:** Hartman & Blair and The Texas Co.'s Schartz 1, NE SE SE 33-19s-10w, July, 1936. **Means of Discovery:** Subsurface geology. **Type of Structure:** Anticline,

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possibly faulted. **Producing Formation:** Siliceous lime, 3300 ft. **Producing Area:** 290 acres. **Extent of Development:** Area being drilled with no dry holes to indicate limits. **Produced to 1937:** 86,100 bbls; 45 gravity. **Oil Outlets:** Kaw Pipe Line Co., Skelly Oil Co., Sinclair Prairie Pipe Line Co. **Producing Wells:** 19. **Rigs Running:** 4. **Principal Leaseholders:** Hartman & Blair, Mid-Continent Petroleum Corp., Shell Petroleum Corp., Sinclair Prairie Oil Co., The Texas Co.

SILICA

In T 19 and 20s, R 10 and 11w. **Discovery Well:** Hilligos et al's Isern 1, SW SE NE 12-20s-11w, October, 1931. **Means of Discovery:** Surface and subsurface geology. **Type of Structure:** Dome. **Producing Formations:** Siliceous lime, 3000 ft. **Producing Area:** 2890 acres. **Extent of Development:** Has had consistent development since discovery. Extensions may yet be made. **Produced to 1937:** 4,433,400 bbls; 42 gravity. **Oil Outlets:** Derby Oil Co., Sinclair Prairie Pipe Line Co., Skelly Oil Co., Stanolind Pipe Line Co. **Wells Producing:** 233. **Rigs Running:** 28. **Principal Leaseholders:** Beaver Oil Co., Bradley Oil Co., Continental Oil Co., C. B. Davis, Gulf Oil Corporation, Hutchinson Oil & Gas Co., Simon Lebow, Magnolia Petroleum Co., Mid-Continent Petroleum Corp., Phillips Petroleum Co., Republic Gas Co., Shell Petroleum Corp., Sinclair Prairie Oil Co., Skelly Oil Co., Stanolind Oil & Gas Co., J. H. Tatlock, The Texas Co.

SOEKEN

In T 19s, R 9w. **Discovery Well:** Shell Petroleum Corp.'s Soeken 1, C NW 10-19s-9w, January, 1937. **Remarks:** This well may be an extension of the Chase pool to the northeast. It made 68 barrels potential from 3309 ft in Siliceous lime.

STUMPS

In T 18s, R 10w. **Discovery Well:** Allison et al's Stumps 1, NW NW SW 4-18s-10w, May, 1935. **Means of Discovery:** Seismograph. **Type of Structure:** Anticline. **Producing Formation:** Siliceous lime, 3940 ft. **Producing Area:** 280 acres. **Extent of Development:** Field nearing complete drilling state. **Produced to 1937:** 205,200 bbls; 43 gravity. **Oil Outlet:** Kaw Pipe Line Co. **Wells Producing:** 10. **Rigs Running:** 2. **Principal Leaseholders:** Allison et al, Transwestern Oil Co.

THEEDE

In T 21s, R 7w. **Discovery Well:** Douglass Oil Co.'s Theede 1, NW NW SW 9-21s-7w, January, 1937. **Means of Discovery:** Trend, surface geology and core drilling. **Producing Formation:** Conglomerate. **Producing Area:** 220 acres. **Extent of Development:** Although a recent discovery this field has had rapid development. Indications are that more productive acreage will be added. **Produced to 1937:** 778 bbls; 36 gravity. **Oil Outlet:** Skelly Oil Co. **Wells Producing:** 10. **Rigs Running:** 19. **Principal Leaseholders:** Douglass Oil Co., Grace Oil Co., Sage & Ynakee, Sunflower Oil Co., Aylward Producing Co.

WELCH

In T 20 and 21s, R 6w. **Discovery Well:** Prairie Oil & Gas Co.'s Welch 1, SE SW NW 35-20s-6w, Jan., 1924. **Means of Discovery:** Surface geology. **Type of Structure:** Anticline. **Producing Formation:** Chat. **Producing Area:** 1000 acres. **Extent of Development:** Defined by dry holes, leaving only small acreage that could be added. **Produced to 1937:** 3,621,500 bbls; 33 gravity. **Oil Outlet:** Skelly Oil Co. **Wells Producing:** 31. **Principal Leaseholders:** Carpenter et al, A. L. Eaton, rec., Carl Hipple, C. C. Nye, Phillips Petroleum Co., Sinclair Prairie Oil Co.

WENKE

In T 20s, R 10. **Discover Well:** Twin Drilling Co.'s Winke 1, SE SE SE 7-20s-10w, March, 1935. **Means of Discovery:** Subsurface geology. **Producing Formation:** Siliceous lime, 3370 ft. **Producing Area:** 160 acres. **Extent of Development:** Area not considered defined. Development retarded by existence of water in discovery well. **Produced to 1937:** 18,800 bbls; 42 gravity. **Oil Outlet:** Sinclair Prairie Pipe Line Co. **Wells Producing:** 5. **Principal Leaseholder:** Twin Drilling Co.

WHERRY

In T 21s, R 7w. **Discovery Well:** Garden et al's Thode 1, C NW NW 11-21s-7w, Sept., 1933. **Means of Discovery:** Core drill. **Type of Structure:** Monocline. **Producing Formation:** Chat, 3375 ft. **Producing Area:** 400 acres indicated but not defined, although north and south flanks have dry holes to indicate these limits. **Produced to 1937:** 228,200 bbls; 32 gravity. **Oil Outlets:** Kaw Pipe Line Co., Skelly Oil Co. **Wells Producing:** 5. **Principal Leaseholder:** Garden et al.

ROOKS COUNTY

DOPITA

In T 8 and 17s, R 18w and T 9s, R 17w. **Discovery Well:** Phillips Petroleum Co.'s Dopita 1, C SW 31-8s-17w, July, 1934. **Means of Discovery:** Core drill. **Type of Structure:** Anticline. **Producing Formation:** Siliceous lime, 3415 ft. **Producing Area:** 40 acres. **Extent of Development:** 2 wells drilled. Kansas City lime indicated as productive. **Produced to 1937:** 4180 bbls; 25 and 36 gravity. **Oil Outlet:** No regular market, some oil being sold for fuel for drilling. **Producing Wells:** 2. **Principal Leaseholder:** Phillips Petroleum Co.

FAUBIN

In T 6s, R 18w. **Discovery Well:** Gillespie et al's Faubin 1, NE NE NW 12-6s-18w, March, 1936. **Means of Discovery:** Core drill. **Producing Formation:** Kansas City lime, 3040 to 3075 ft. **Pro-**

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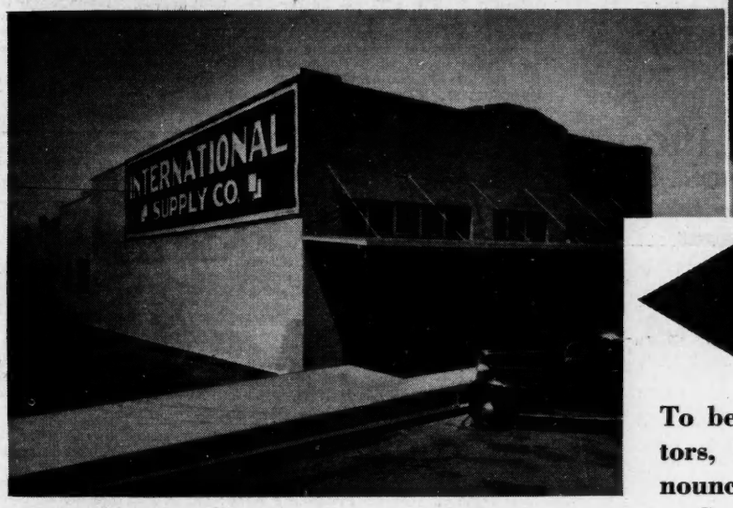

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surface geology. **Type of Structure:** Anticline. **Producing Formations:** Oswald lime, 3010 to 3050 ft; Siliceous lime, 3280 to 3300 ft. **Producing Area:** 200 acres. **Extent of Development:** Field not delimited by drilling. Greater productive area indicated with development. **Deepest Test:** Phillips Petroleum Co.'s Downs 1, NE SE SW, 30-13s-14w, drilled into water at 3624 ft. **Produced to 1937:** 93,300 bbls; 31 gravity in Oswald lime, 40 gravity from Siliceous lime. **Oil Outlet:** Stanolind Pipe Line Co. **Wells Producing:** 5. **Principal Leaseholders:** Phillips Petroleum Co., Gilmac Oil Co.

SOUTH ATHERTON

In T 13s, R 14w. **Discovery Well:** Hartman & Blair's Boxberger 1, NWc SW 32-13s-14w, March, 1936. **Means of Discovery:** Subsurface geology. **Type of Structure:** Anticline. **Producing Formations:** Oswald lime, 3040 to 3200 ft; Siliceous lime, 3300 to 3313 ft. **Producing Area:** 60 acres. **Extent of Development:** No current development. **Deepest Test:** Shell Petroleum Corp.'s Brown 1, NE NE SE 31-13s-14w, 3313 ft in Siliceous lime. **Produced to 1937:** 34,800 bbls; 31 gravity from Oswald lime; 40 gravity from Siliceous lime. **Oil Outlet:** Kaw Pipe Line Co. **Producing Wells:** 3. **Principal Leaseholders:** Empire Oil & Refining Co., Hartman & Blair, Shell Petroleum Corp. **Remarks:** The structure of South Atherton is similar to the nearby Atherton pool. A water saddle may separate the two.

BENSO

In T 14s, R 15w. **Discovery Well:** Central Petroleum Co.'s Benso 1, SE SE SW 9-14s-15w, Feb., 1936. **Means of Discovery:** Subsurface geology. **Type of Structure:** Anticline. **Producing Formation:** Oswald lime, 3100 ft. **Producing Area:** 80 acres. **Deepest Test:** Discovery well was carried at 3313 ft. and plugged back to Oswald lime. **Produced to 1937:** 7500 bbls; 37 gravity. **Oil Outlet:** Stanolind Pipe Line Co. **Producing Wells:** 1. **Principal Leaseholders:** Central Petroleum Co., Billings Oil Co., Skelly Oil Co. **Remarks:** Further drilling may link the area with Gornam pool, 2 miles north.

HERRICK

In T 15s, R 13w. **Discovery Well:** Coralena Oil Co.'s Berrick 1, NE NW NE 6-15s-13w, Dec., 1935. **Means of Discovery:** Subsurface geology. **Producing Formation:** Oswald lime, 2900 to 2950 ft. **Producing Area:** 80 acres. **Extent of Development:** Area may be small. A south offset was carried to 3220 ft. and plugged back. **Produced to 1937:** 25,900 bbls; 39 gravity. **Oil Outlet:** Kaw Pipe Line Co. **Producing Wells:** 3. **Principal Leaseholder:** Coralena Oil Co.

BOXBERGER

In T 15s, R 15w. **Discovery Well:** Central Petroleum Co.'s Boxberger 1, NWc 36-15s-15w, Dec., 1935. **Means of Discovery:** Core drill. **Producing Formation:** Oswald lime, 3140 ft. **Producing Area:** 160 acres. **Extent of Development:** A well one location west of production aband. 3419 ft. **Produced to 1937:** 59,300 bbls; 37 gravity. **Oil Outlet:** Kaw Pipe Line Co. **Producing Wells:** 4. **Principal Leaseholders:** Central Petroleum Co., Darby Petroleum Co., Skelly Oil Co. **Remarks:** This pool is a flank test of the general northwest Kansas trend.

BUNKER HILL

In T 13s, R 12w. **Discovery Well:** Roth & Faurot's Cross 1, C NE NW NE 31-13s-12w, Oct., 1935. **Means of Discovery:** Subsurface geology. **Type of Structure:** Anticline. **Producing Formation:** Kansas City lime, 2980 ft. **Producing Area:** 160 acres. **Extent of Development:** 2 producers. **Produced to 1937:** 11,400 bbls; 36 gravity. **Oil Outlet:** Kaw Pipe Line Co. **Producing Wells:** 2. **Principal Leaseholder:** Equits Gas Co.

CORALENA

In T 15s, R 13w. **Discovery Well:** Coralena Oil Co.'s Sellens 1, NWc 17-15s-13w, Oct., 1936. **Means of Discovery:** Subsurface geology. **Type of Structure:** Anticline. **Producing Formations:** Topeka lime, 2630 to 2890 ft; Oswald lime 2960 to 2990 ft. **Producing Area:** 100 acres. **Extent of Development:** 3-well pool, eastern extension of 2 miles would join it with Anschutz pool. **Deepest Test:** An offset to the discovery well was drilled to 2990 ft. **Produced to 1937:** 6000 bbls; 38 gravity. **Oil Outlet:** Kaw Pipe Line Co. **Wells Producing:** 3. **Rigs Running:** 2. **Principal Leaseholders:** Carter Oil Co., Coralena Oil Co., W. I. Southern, Inc.

CRAM

In T 14s, R 15w. **Discovery Well:** J. C. Shaffer et al's Cram 1, NE NE SE 11-14s-15w, August, 1935. **Means of Discovery:** Core drill. **Producing Formation:** Oswald lime, 3170 ft. **Producing Area:** 80 acres. **Deepest Test:** A well drilled to the Siliceous lime, 3305 ft, showed both oil and water. **Produced to 1937:** 6000 bbls; 36 gravity. **Oil Outlet:** Kaw Pipe Line Co. **Wells Producing:** 1. **Remarks:** It is likely that further expansion of Sullivan pool will prove the Cram field a part of this larger area.

DILLNER

In T 13s, R 15w. **Discovery Well:** Empire Oil & Refining Co.'s Dillner 1, NW C 36-13s-15w, May, 1930. **Means of Discovery:** Core drilling and subsurface study. **Producing Formation:** Siliceous lime, 3300 ft. **Producing Area:** 130 acres. **Remarks:** This pool produced 61,000 bbls of oil before it was abandoned. The producing formation was thin and initial output included considerable water. The area may prove to be another extension of the Gorham and Sullivan trend.

DONOVAN

In T 15s, R 15w. **Discovery Well:** Wolf Creek Oil Co.'s Donovan 1, SW SW SE 10-15s-15w, Feb., 1935. **Means of Discovery:** Subsurface geology. **Type of Structure:** Anticline. **Producing Formation:** Kansas City lime, 3050 to 3200 ft. **Producing Area:** 80

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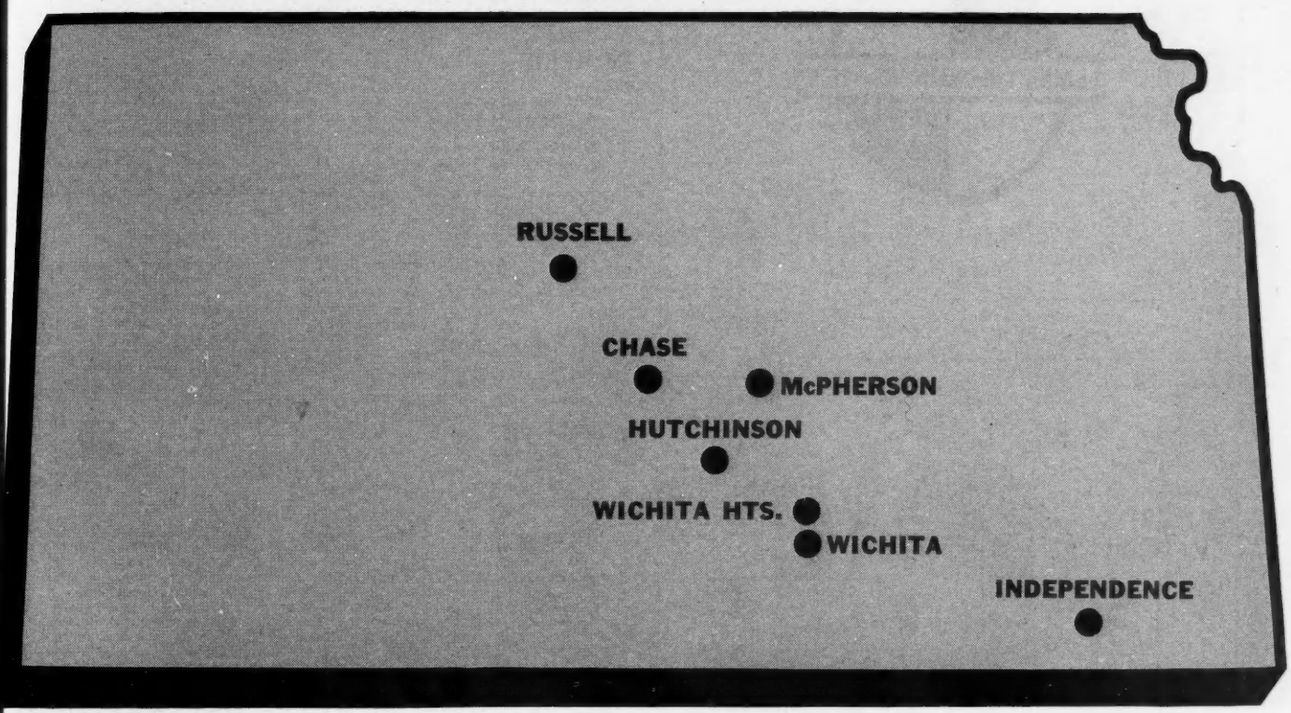

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possibly faulted. **Producing Formation:** Siliceous lime, 3300 ft. **Producing Area:** 290 acres. **Extent of Development:** Area being drilled with no dry holes to indicate limits. **Produced to 1937:** 86,100 bbls; 45 gravity. **Oil Outlets:** Kaw Pipe Line Co., Skelly Oil Co., Sinclair Prairie Pipe Line Co. **Producing Wells:** 19. **Rigs Running:** 4. **Principal Leaseholders:** Hartman & Blair, Mid-Continent Petroleum Corp., Shell Petroleum Corp., Sinclair Prairie Oil Co., The Texas Co.

SILICA

In T 19 and 20s, R 10 and 11w. **Discovery Well:** Hilligos et al's Isern 1, SW SE NE 12-20s-11w, October, 1931. **Means of Discovery:** Surface and subsurface geology. **Type of Structure:** Dome. **Producing Formations:** Siliceous lime, 3000 ft. **Producing Area:** 2890 acres. **Extent of Development:** Has had consistent development since discovery. Extensions may yet be made. **Produced to 1937:** 4,433,400 bbls; 42 gravity. **Oil Outlets:** Derby Oil Co., Sinclair Prairie Pipe Line Co., Skelly Oil Co., Stanolind Pipe Line Co. **Wells Producing:** 233. **Rigs Running:** 28. **Principal Leaseholders:** Beaver Oil Co., Bradley Oil Co., Continental Oil Co., C. B. Davis, Gulf Oil Corporation, Hutchinson Oil & Gas Co., Simon Lebow, Magnolia Petroleum Co., Mid-Continent Petroleum Corp., Phillips Petroleum Co., Republic Gas Co., Shell Petroleum Corp., Sinclair Prairie Oil Co., Skelly Oil Co., Stanolind Oil & Gas Co., J. H. Tatlock, The Texas Co.

SOEKEN

In T 19s, R 9w. **Discovery Well:** Shell Petroleum Corp.'s Soeken 1, C NW 10-19s-9w, January, 1937. **Remarks:** This well may be an extension of the Chase pool to the northeast. It made 68 barrels potential from 3309 ft in Siliceous lime.

STUMPS

In T 18s, R 10w. **Discovery Well:** Allison et al's Stumps 1, NW NW SW 4-18s-10w, May, 1935. **Means of Discovery:** Seismograph. **Type of Structure:** Anticline. **Producing Formation:** Siliceous lime, 3940 ft. **Producing Area:** 280 acres. **Extent of Development:** Field nearing complete drilling state. **Produced to 1937:** 205,200 bbls; 43 gravity. **Oil Outlet:** Kaw Pipe Line Co. **Wells Producing:** 10. **Rigs Running:** 2. **Principal Leaseholders:** Allison et al, Transwestern Oil Co.

THEEDE

In T 21s, R 7w. **Discovery Well:** Douglass Oil Co.'s Theede 1, NW NW SW 9-21s-7w, January, 1937. **Means of Discovery:** Trend, surface geology and core drilling. **Producing Formation:** Conglomerate. **Producing Area:** 220 acres. **Extent of Development:** Although a recent discovery this field has had rapid development. Indications are that more productive acreage will be added. **Produced to 1937:** 778 bbls; 36 gravity. **Oil Outlet:** Skelly Oil Co. **Wells Producing:** 10. **Rigs Running:** 19. **Principal Leaseholders:** Douglass Oil Co., Grace Oil Co., Sage & Ynakee, Sunflower Oil Co., Aylward Producing Co.

WELCH

In T 20 and 21s, R 6w. **Discovery Well:** Prairie Oil & Gas Co.'s Welch 1, SE SW NW 35-20s-6w, Jan., 1924. **Means of Discovery:** Surface geology. **Type of Structure:** Anticline. **Producing Formation:** Chat. **Producing Area:** 1000 acres. **Extent of Development:** Defined by dry holes, leaving only small acreage that could be added. **Produced to 1937:** 3,621,500 bbls; 33 gravity. **Oil Outlet:** Skelly Oil Co. **Wells Producing:** 31. **Principal Leaseholders:** Carpenter et al, A. L. Eaton, rec., Carl Hipple, C. C. Nye, Phillips Petroleum Co., Sinclair Prairie Oil Co.

WENKE

In T 20s, R 10. **Discover Well:** Twin Drilling Co.'s Winke 1, SE SE SE 7-20s-10w, March, 1935. **Means of Discovery:** Subsurface geology. **Producing Formation:** Siliceous lime, 3370 ft. **Producing Area:** 160 acres. **Extent of Development:** Area not considered defined. Development retarded by existence of water in discovery well. **Produced to 1937:** 18,800 bbls; 42 gravity. **Oil Outlet:** Sinclair Prairie Pipe Line Co. **Wells Producing:** 5. **Principal Leaseholder:** Twin Drilling Co.

WHERRY

In T 21s, R 7w. **Discovery Well:** Garden et al's Thode 1, C NW NW 11-21s-7w, Sept., 1933. **Means of Discovery:** Core drill. **Type of Structure:** Monocline. **Producing Formation:** Chat, 3375 ft. **Producing Area:** 400 acres indicated but not defined, although north and south flanks have dry holes to indicate these limits. **Produced to 1937:** 228,200 bbls; 32 gravity. **Oil Outlets:** Kaw Pipe Line Co., Skelly Oil Co. **Wells Producing:** 5. **Principal Leaseholder:** Garden et al.

ROOKS COUNTY

DOPITA

In T 8 and 17s, R 18w and T 9s, R 17w. **Discovery Well:** Phillips Petroleum Co.'s Dopita 1, C SW 31-8s-17w, July, 1934. **Means of Discovery:** Core drill. **Type of Structure:** Anticline. **Producing Formation:** Siliceous lime, 3415 ft. **Producing Area:** 40 acres. **Extent of Development:** 2 wells drilled. Kansas City lime indicated as productive. **Produced to 1937:** 4180 bbls; 25 and 36 gravity. **Oil Outlet:** No regular market, some oil being sold for fuel for drilling. **Producing Wells:** 2. **Principal Leaseholder:** Phillips Petroleum Co.

FAUBIN

In T 6s, R 18w. **Discovery Well:** Gillespie et al's Faubin 1, NE NE NW 12-6s-18w, March, 1936. **Means of Discovery:** Core drill. **Producing Formation:** Kansas City lime, 3040 to 3075 ft. **Pro-**

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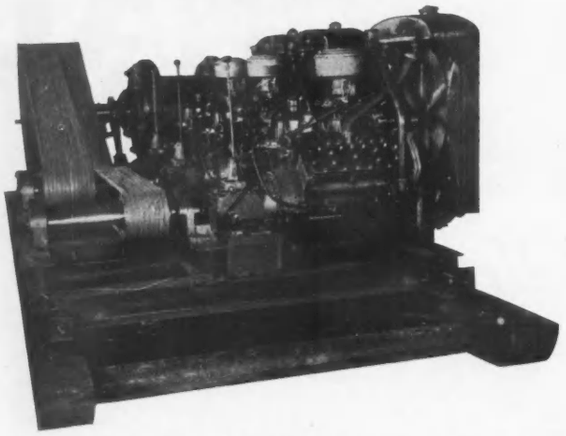

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LATON

In T 9s, R 16w. **Discovery Well:** Vickers Petroleum Co.'s Luhman 1, SW SW SE 11-9s-16w, July, 1927. **Means of Discovery:** Surface escarpment. **Type of Structure:** Anticline. **Producing Formation:** Oswald lime, 3265 to 3320 ft. **Producing Area:** 70 acres. **Extent of Development:** Attempts to extend development have failed. **Produced to 1937:** 157,700 bbls; 40 gravity. **Oil Outlet:** Krueger Refining Co., Vickers Petroleum Co. **Wells Producing:** 3. **Principal Leaseholders:** Krueger Refining Co., Vickers Petroleum Co.

WEBSTER

In T 8s, R 19w. **Discovery Well:** Aylward et al's Silvers 1, C NE 21-8s-19w, October, 1930. **Means of Discovery:** Surface geology. **Producing Formations:** Kansas City lime, 3225 ft, conglomerate, 3450 ft. **Producing Area:** 80 acres. **Extent of Development:** One well. **Produced to 1937:** 35,500 bbls; 25 and 35 gravity. **Principal Leaseholder:** Twin Drilling Co.

WESTHUSIN

In T 9s, R 17w. **Discovery Well:** L. C. D. Drilling Co.'s Westhusin 1, C NE SE 11-9s-17w, Sept., 1936. **Means of Discovery:** Surface geology. **Type of Structure:** Dome. **Producing Formation:** Oswald lime, 3200 ft. **Producing Area:** 90 acres. **Extent of Development:** One well completed, offset location was abandoned. **Produced to 1937:** 800 bbls; 38 gravity. **Oil Outlet:** Falcon Refining Co. by truck. **Wells Producing:** 1. **Principal Leaseholder:** L. C. D. Drilling Co. **Remarks:** Lack of outlet responsible for no further development. Discovery well pumped 504 bbls. initial with 250 bbls. of water. No immediate development indicated.

ZURICH

In T 10s, R 19w. **Discovery Well:** Trees Oil Co. and Findeiss' Johnson 1, SW SW SE 26-10s-19w, Sept., 1935. **Means of Discovery:** Surface geology. **Type of Structure:** Anticline. **Producing Formation:** Kansas City lime, 3300 ft. **Producing Area:** 120 acres. **Extent of Development:** One dry hole five-eighths of a mile from production. **Produced to 1937:** 19,000 bbls; 36 gravity. **Oil Outlet:** Stanolind Pipe Line Co. **Producing Wells:** 4. **Rigs Running:** 1. **Principal Leaseholders:** Sunray Oil Co., Superior Oil Co.

RUSH COUNTY

BISON (Gas)

In T 17s, R 17w. **Discovery Well:** Danciger Oil & Refining Co.'s Bison 1, C NW 27-17s-17w, Nov., 1928. **Means of Discovery:** Surface geology. **Type of Structure:** Dome. **Producing Formation:** Conglomerate, 3575 ft. **Producing Area:** 40 acres. **Extent of Development:** Field has no further development and is not producing. **Principal Leaseholder:** Danciger Oil & Refining Co.

GREENWALT

In T 19s, R 16w. **Discovery Well:** Syndicate Oil & Gas Co.'s Greenwalt 1, C SW 17-19s-16w, Oct., 1931. **Remarks:** Well made 400 bbls. from Siliceous lime, 3263 ft. No outlet and no further development.

OTIS

In T 18s, R 16w. **Discovery Well:** Morgan & Flynn's Eitel Estate 1, C NW 11-18s-16w, March, 1930. **Means of Discovery:** Surface geology. **Type of Structure:** Dome. **Producing Formation:** Reagan sand, 3550 to 3600 ft. **Producing Area:** Oil production confined to 200 acres, gas producing area, 4800 acres. **Extent of Development:** Oil production is being extended slowly around the gas productive area. **Produced to 1937:** 37,800 bbls; 35 gravity. **Oil Outlets:** Falcon Refining Co., Stanolind Pipe Line Co. **Producing Wells:** 8. **Rigs Running:** 9. **Principal Leaseholders:** Morgan & Flynn, Olson Drilling Co., Schermerhorn Oil Corp. **Remarks:** Otis gas pool is one of the important reserves of Western Kansas. Drilling for gas has been confined to one well for each 160 acres.

WINGET

In T 16s, R 16w. **Discovery Well:** Schoenfeld & Kitch's Winget 1, SE SE SE 15-16s-16w, Dec., 1936. **Means of Discovery:** Surface geology. **Producing Formation:** Kansas City lime. **Producing Area:** 80 acres. **Oil Outlet:** Kaw Pipe Line Co. and trucks. **Wells Producing:** 1. **Rigs Running:** 3. **Remarks:** This field is ready for development but is not old enough to establish production records. Gravity of oil 39.

RUSSELL COUNTY

ANSCHUTZ

In T 15s, R 13w. **Discovery Well:** Phillips Petroleum Co. et al's Anschutz 1, SWE 10-15s-13w, April, 1936. **Means of Discovery:** Surface indications relating sector to the productive trend of southern Russell County. **Producing Formations:** Topeka lime and Siliceous lime. **Producing Area:** 580 acres. **Extent of Development:** Type of structure indicates small pool, no wells drilling. **Produced to 1937:** 22,500 bbls; 37 gravity. **Oil Outlet:** Kaw Pipe Line Co. **Wells Producing:** 2. **Principal Leaseholders:** Phillips Petroleum Co., Stanolind Oil & Gas Co., Derby Oil Co. **Remarks:** Dry holes south and west of producing wells.

ATHERTON

In T 13s, R 14w. **Discovery Well:** McMorrow et al's Atherton 1, NW NW NE 30-13e-14w, July, 1935. **Means of Discovery:** Sub-

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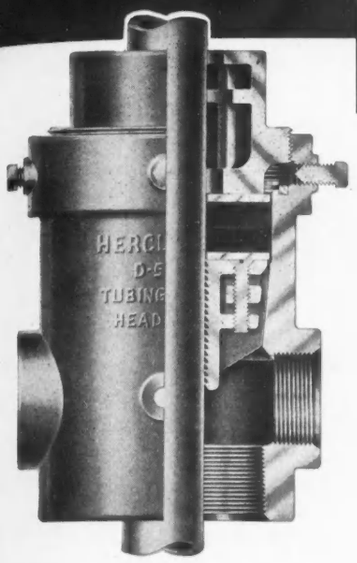

Fig. 209—Type "D-5" Cast Steel Tubing Head With Slips. Full Opening.

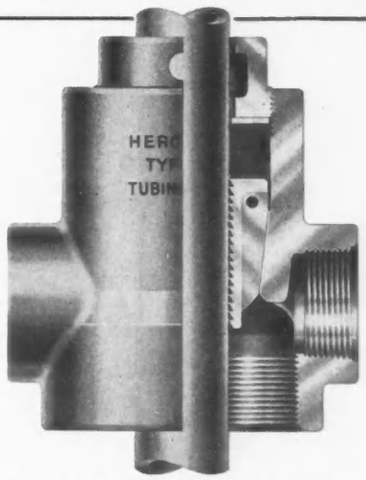

Fig. 208—Type "D-4" Tubing Head With Slips.

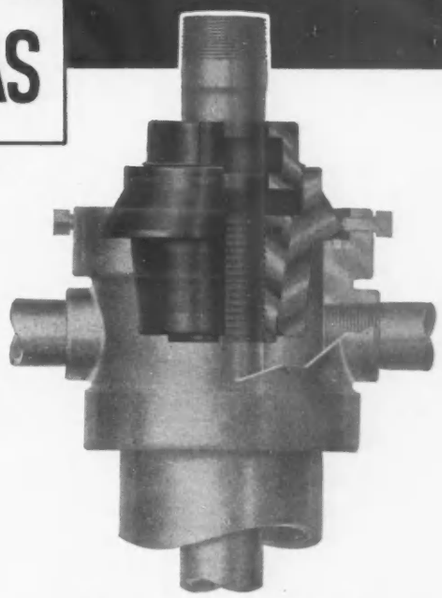

Fig. 216—Tubing Hanger With Slips, Sitting in Casing Head.

HERCULES "OVERHEAD-PACKED" TUBING HEADS AND HANGERS OFFER SECURITY, ECONOMY, SIMPLICITY

HERCULES "Overhead-Packed" well head connections have met with universal approval and acceptance among Kansas operators. Practically all companies operating in the Kansas fields are using this equipment to some extent. These operators have found that HERCULES equipment means maximum protection for their wells, and have recognized the great advantages of HERCULES "Overhead Packing," which permits repacking and adjustment of pressure on the packing without lifting pipe or disturbing well connections in any way. Packing is readily accessible in its protected position above the slips. Packing will not break down or cut out.

D-5 TUBING HEAD: In addition to "Overhead Packing," HERCULES Tubing heads and Hangers offer many other valuable features. Our Type D-5 Cast Steel Tubing Head has oil saver top to accommodate wire line oil saver or spider, and special locking slips hinged together, instantly adjusted by latch. Head is full-opening.

D-4 TUBING HEAD is a combination casing head and tubing support. Any tubing from 3" upset to 2" or smaller can be run through head simply by changing parts. It thus eliminates a Berry casing head. Dowel-pinned slips go down together and grip tubing evenly. An ideal tubing head for acidizing wells.

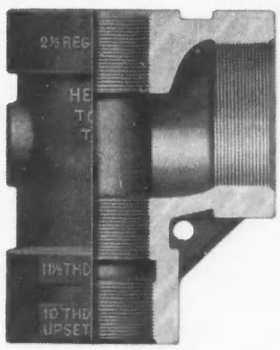

Fig. 217—Upset Pumping and Flowing Tee.

TUBING HANGER. Important advantages of the HERCULES Tubing Hanger are: (1) Three slips completely encircle tubing, thus eliminating pinching and crushing; (2) Forged steel body; (3) Slips can't drop into well; (4) Extends only 1 to 5 inches above top of casing head.

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surface geology. **Type of Structure:** Anticline. **Producing Formations:** Oswald lime, 3010 to 3050 ft; Siliceous lime, 3280 to 3300 ft. **Producing Area:** 200 acres. **Extent of Development:** Field not delimited by drilling. Greater productive area indicated with development. **Deepest Test:** Phillips Petroleum Co.'s Downs 1, NE SE SW, 30-13s-14w, drilled into water at 3624 ft. **Produced to 1937:** 93,300 bbls; 31 gravity in Oswald lime, 40 gravity from Siliceous lime. **Oil Outlet:** Stanolind Pipe Line Co. **Wells Producing:** 5. **Principal Leaseholders:** Phillips Petroleum Co., Gilmac Oil Co.

SOUTH ATHERTON

In T 13s, R 14w. **Discovery Well:** Hartman & Blair's Boxberger 1, NWc SW 32-13s-14w, March, 1936. **Means of Discovery:** Subsurface geology. **Type of Structure:** Anticline. **Producing Formations:** Oswald lime, 3040 to 3200 ft; Siliceous lime, 3300 to 3313 ft. **Producing Area:** 60 acres. **Extent of Development:** No current development. **Deepest Test:** Shell Petroleum Corp.'s Brown 1, NE NE SE 31-13s-14w, 3313 ft in Siliceous lime. **Produced to 1937:** 34,800 bbls; 31 gravity from Oswald lime; 40 gravity from Siliceous lime. **Oil Outlet:** Kaw Pipe Line Co. **Producing Wells:** 3. **Principal Leaseholders:** Empire Oil & Refining Co., Hartman & Blair, Shell Petroleum Corp. **Remarks:** The structure of South Atherton is similar to the nearby Atherton pool. A water saddle may separate the two.

BENSO

In T 14s, R 15w. **Discovery Well:** Central Petroleum Co.'s Benso 1, SE SE SW 9-14s-15w, Feb., 1936. **Means of Discovery:** Subsurface geology. **Type of Structure:** Anticline. **Producing Formation:** Oswald lime, 3100 ft. **Producing Area:** 80 acres. **Deepest Test:** Discovery well was carried at 3313 ft. and plugged back to Oswald lime. **Produced to 1937:** 7500 bbls; 37 gravity. **Oil Outlet:** Stanolind Pipe Line Co. **Producing Wells:** 1. **Principal Leaseholders:** Central Petroleum Co., Billings Oil Co., Skelly Oil Co. **Remarks:** Further drilling may link the area with Gornam pool, 2 miles north.

HERRICK

In T 15s, R 13w. **Discovery Well:** Coralena Oil Co.'s Berrick 1, NE NW NE 6-15s-13w, Dec., 1935. **Means of Discovery:** Subsurface geology. **Producing Formation:** Oswald lime, 2900 to 2950 ft. **Producing Area:** 80 acres. **Extent of Development:** Area may be small. A south offset was carried to 3220 ft. and plugged back. **Produced to 1937:** 25,900 bbls; 39 gravity. **Oil Outlet:** Kaw Pipe Line Co. **Producing Wells:** 3. **Principal Leaseholder:** Coralena Oil Co.

BOXBERGER

In T 15s, R 15w. **Discovery Well:** Central Petroleum Co.'s Boxberger 1, NWc 36-15s-15w, Dec., 1935. **Means of Discovery:** Core drill. **Producing Formation:** Oswald lime, 3140 ft. **Producing Area:** 160 acres. **Extent of Development:** A well one location west of production aband. 3419 ft. **Produced to 1937:** 59,300 bbls; 37 gravity. **Oil Outlet:** Kaw Pipe Line Co. **Producing Wells:** 4. **Principal Leaseholders:** Central Petroleum Co., Darby Petroleum Co., Skelly Oil Co. **Remarks:** This pool is a flank test of the general northwest Kansas trend.

BUNKER HILL

In T 13s, R 12w. **Discovery Well:** Roth & Faurot's Cross 1, C NE NW NE 31-13s-12w, Oct., 1935. **Means of Discovery:** Subsurface geology. **Type of Structure:** Anticline. **Producing Formation:** Kansas City lime, 2980 ft. **Producing Area:** 160 acres. **Extent of Development:** 2 producers. **Produced to 1937:** 11,400 bbls; 36 gravity. **Oil Outlet:** Kaw Pipe Line Co. **Producing Wells:** 2. **Principal Leaseholder:** Equits Gas Co.

CORALENA

In T 15s, R 13w. **Discovery Well:** Coralena Oil Co.'s Sellens 1, NWc 17-15s-13w, Oct., 1936. **Means of Discovery:** Subsurface geology. **Type of Structure:** Anticline. **Producing Formations:** Topeka lime, 2630 to 2890 ft; Oswald lime 2960 to 2990 ft. **Producing Area:** 100 acres. **Extent of Development:** 3-well pool, eastern extension of 2 miles would join it with Anschutz pool. **Deepest Test:** An offset to the discovery well was drilled to 2990 ft. **Produced to 1937:** 6000 bbls; 38 gravity. **Oil Outlet:** Kaw Pipe Line Co. **Wells Producing:** 3. **Rigs Running:** 2. **Principal Leaseholders:** Carter Oil Co., Coralena Oil Co., W. I. Southern, Inc.

CRAM

In T 14s, R 15w. **Discovery Well:** J. C. Shaffer et al's Cram 1, NE NE SE 11-14s-15w, August, 1935. **Means of Discovery:** Core drill. **Producing Formation:** Oswald lime, 3170 ft. **Producing Area:** 80 acres. **Deepest Test:** A well drilled to the Siliceous lime, 3305 ft, showed both oil and water. **Produced to 1937:** 6000 bbls; 36 gravity. **Oil Outlet:** Kaw Pipe Line Co. **Wells Producing:** 1. **Remarks:** It is likely that further expansion of Sullivan pool will prove the Cram field a part of this larger area.

DILLNER

In T 13s, R 15w. **Discovery Well:** Empire Oil & Refining Co.'s Dillner 1, NW C 36-13s-15w, May, 1930. **Means of Discovery:** Core drilling and subsurface study. **Producing Formation:** Siliceous lime, 3300 ft. **Producing Area:** 130 acres. **Remarks:** This pool produced 61,000 bbls of oil before it was abandoned. The producing formation was thin and initial output included considerable water. The area may prove to be another extension of the Gorham and Sullivan trend.

DONOVAN

In T 15s, R 15w. **Discovery Well:** Wolf Creek Oil Co.'s Donovan 1, SW SW SE 10-15s-15w, Feb., 1935. **Means of Discovery:** Subsurface geology. **Type of Structure:** Anticline. **Producing Formation:** Kansas City lime, 3050 to 3200 ft. **Producing Area:** 80

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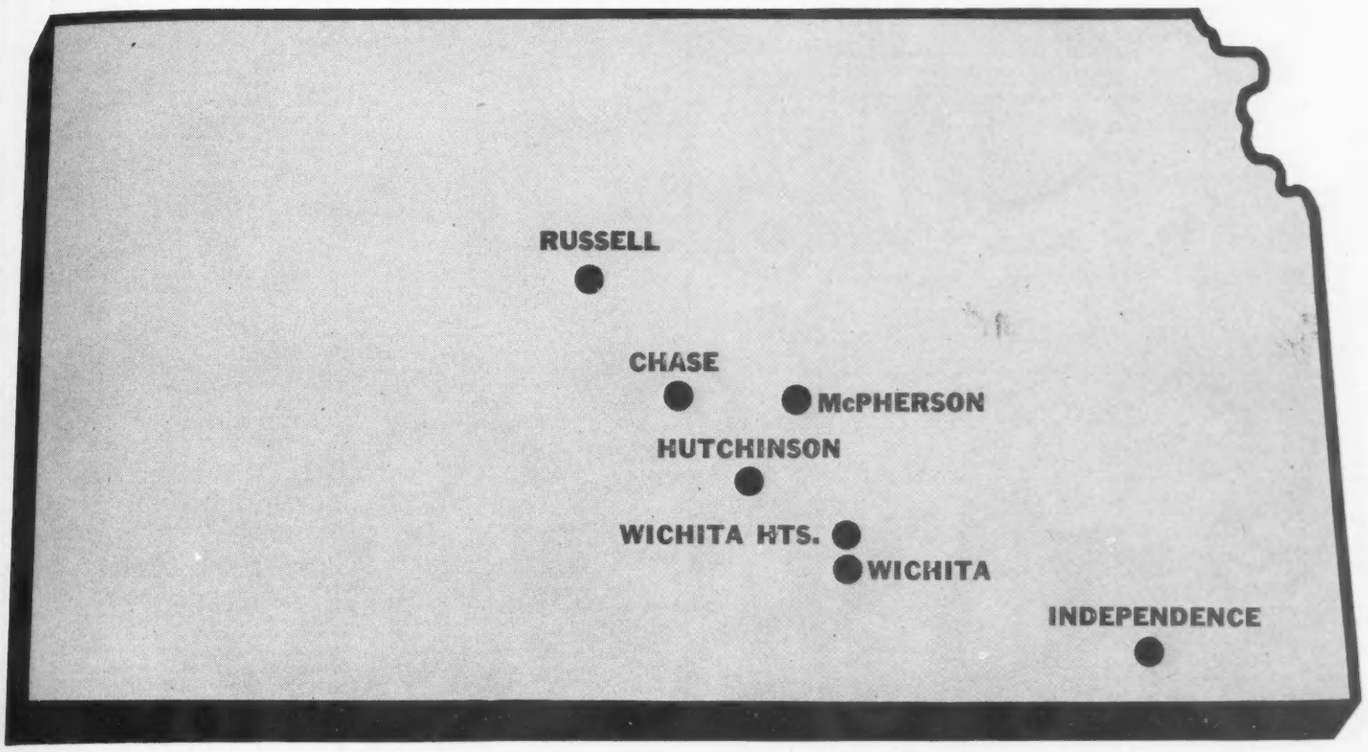

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acres, estimated. **Produced to 1937:** 11,200 bbls; 37 gravity. **Oil Outlet:** Kaw Pipe Line Co. **Producing Wells:** 1. **Principal Leaseholders:** Wolf Creek Oil Co. **Remarks:** The area is undefined; dry hole completed 1½ miles west.

DUBUQUE

In T 15s, R 12w. **Discovery Well:** Bloch & Bailey's Kluesner 1, NW NW SE 34-15s-12w, Oct., 1935. **Means of Discovery:** Surface and subsurface geology. **Type of Structure:** Anticline. **Producing Formation:** Siliceous lime, 3275 ft. **Producing Area:** 80 acres. **Extent of Development:** Dry hole drilled ¼-mile southwest. In other directions extensions will be determined by drilling. **Produced to 1937:** 56,400 bbls; 40 gravity. **Oil Outlet:** Kaw Pipe Line Co. **Producing Wells:** 3. **Principal Leaseholders:** Bloch & Bailey, Gulf Oil Corp., Skelly Oil Co.

DUMLER

In T 14s, R 15w. **Discovery Well:** Skelly Oil Co.'s Dumler 1, SW NE 1-14s-15w, Dec., 1936. **Means of Discovery:** Trend. **Type of Structure:** Anticline. **Producing Formations:** Topeka lime, 2770 ft; Oswald lime, 3110 ft. **Productive Area:** 130 acres. **Deepest Test:** South offset to discovery well drilled to 3110 ft. **Produced to 1937:** 2400 bbls. **Oil Outlet:** Kaw Pipe Line Co. **Producing Wells:** 3. **Principal Leaseholders:** Skelly Oil Co., The Texas Co. **Remarks:** Indications are that this pool later will be connected with the Gorham field.

EICHMAN

In T 15s, R 13w. **Discovery Well:** Phillips Petroleum Co.'s Eichman 1, NW NW SE 34-15s-13w, April, 1935. **Means of Discovery:** Subsurface geology. **Type of Structure:** Anticline. **Producing Formation:** Siliceous lime, 3310 to 3360 ft. **Producing Area:** 480 acres. **Extent of Development:** Field yet to be defined and drilling has given no indication of trend. **Produced to 1937:** 217,300 bbls; 36 gravity. **Oil Outlet:** Kaw Pipe Line Co. **Producing Wells:** 13. **Rigs Running:** 1. **Principal Leaseholders:** Barnsdall Oil Co., Bridgeport Machine Co., Dickey Oil Co., Phillips Petroleum Co., Skelly Oil Co., W. I. Southern, Inc.

FAIRPORT

In T 11, 12 and 13s, R 15w; T 12 and 13s, R 16w. **Discovery Well:** Valerius Oil & Gas Co.'s Oswald 1, SW SW SE 8-12s-15w, Nov., 1923. **Means of Discovery:** Surface escarpments. **Type of Structure:** Long narrow anticline. **Producing Formations:** Oswald lime, 3010 ft; Gorham sand, 3220 ft; Granite wash, 3260 ft. **Producing Area:** 15,000 acres. With the exception of a few inside locations, pool is fully developed. **Produced to 1937:** 11,744,800 bbls; gravity 38 to 42. **Oil Outlet:** Stanolind Pipe Line Co. **Producing Wells:** 150. **Principal Leaseholders:** Aylward Oil & Gas Co., Central Petroleum Co., Rosenthal & Beardmore, Sinclair Prairie Oil Co., Skelly Oil Co., Stanolind Oil & Gas Co., The Texas Co., Twin Drilling Co. **Remarks:** Discovery marked the beginning of commercial production in western Kansas. First oil outlet was through a short pipe line to rail facilities. Lack of adequate outlet retarded development for several years. Acid treatment of lime formations gave this pool further output impetus.

FINK

In T 14s, R 14w. **Discovery Well:** H. H. Blair's Fink 1, SW NW SE 16-14s-14w, Feb., 1935. **Means of Discovery:** Subsurface geology. **Producing Formation:** Oswald lime, 3055 to 3170 ft. **Remarks:** Production was later abandoned.

GIDEON

In T 15s, R 14w. **Discovery Well:** E. W. Marland, Inc.'s Gideon 1, NE NE NW, 8-15s-14w, June, 1930. **Means of Discovery:** Core drill. **Producing Formation:** Conglomerate, 3270 ft. **Extent of Development:** Dry holes apparently have defined this as a one well pool. **Produced to 1937:** 18,950 bbls; 38 gravity. **Oil Outlet:** Kaw Pipe Line Co. **Producing Wells:** 1. **Principal Leaseholders:** E. W. Marland, Inc., Stanolind Oil & Gas Co., Sunflower Oil Co.

GORHAM

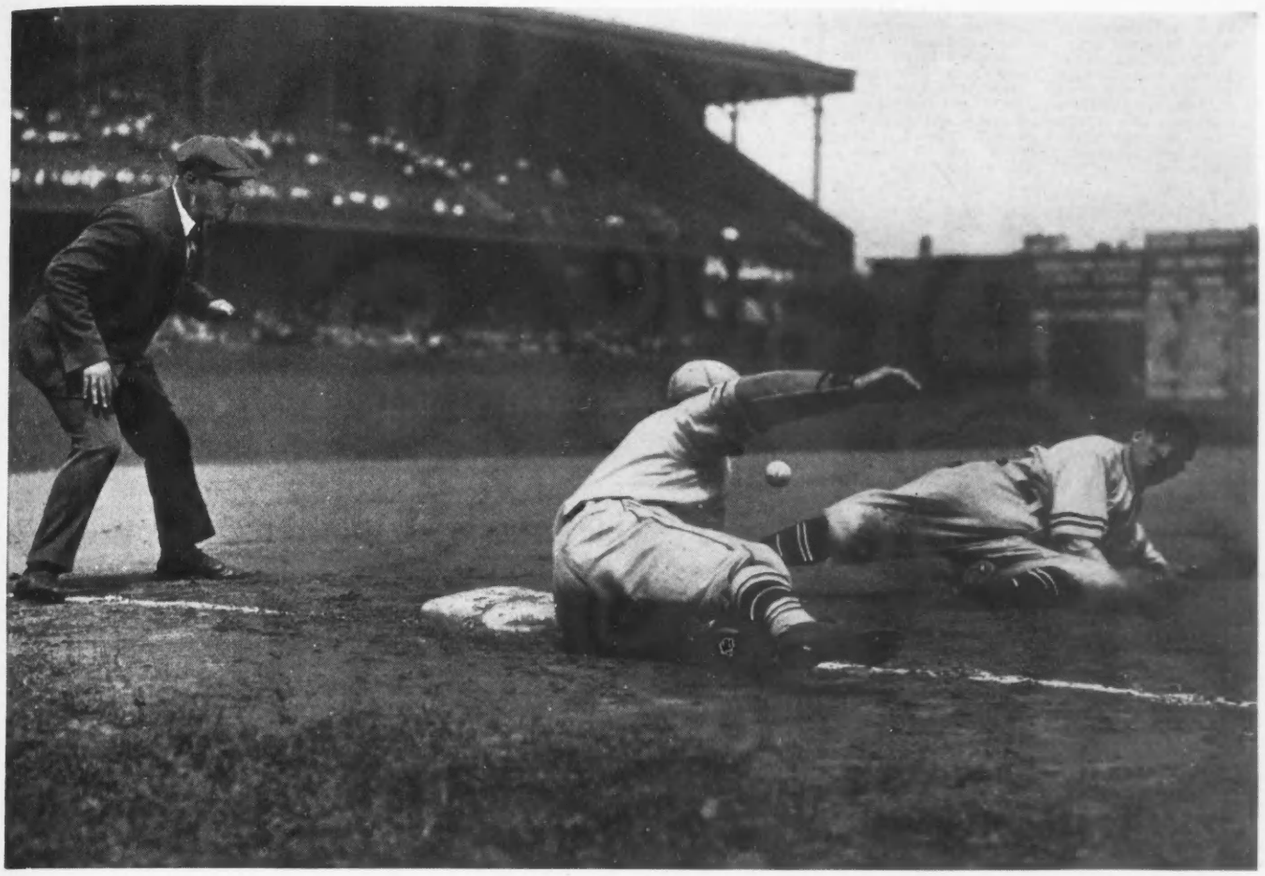
In T 13 and 14s, R 15w. **Discovery Well:** Mid-West Exploration Co.'s Dortland 36, SE SE NW 5-14s-15w, Oct., 1926. **Means of Discovery:** Core drill. **Type of Structure:** Dome. **Producing Formations:** Oswald lime, 2980 to 3100 ft; conglomerate, 2730 to 2875 ft, also Topeka lime and Siliceous lime. **Producing Area:** 1200 acres. **Produced to 1937:** 5,617,400 bbls; 32 to 38 gravity. **Pipe Line Outlets:** Kaw Pipe Line Co., Stanolind Pipe Line Co. **Wells Producing:** 97. **Rigs Running:** 9. **Principal Leaseholders:** A. Billings, Bridgeport Machine Co., A. A. Buschow, Central Petroleum Co., Stanolind Oil & Gas Co., W. K. Royalty Co., A. H. Witt, Yankey & Stearns. **Remarks:** Gorham as here considered includes East Gorham, whose production has been around 400,000 barrels of the total. Several flank pools have been developed around Gorham and given individual names. These have all been included with Gorham as it is now believed the structure includes all of them.

GURNEY

In T 14s, R 14w. **Discovery Well:** Hartman & Blair's Gurney 1, SE SE NW 23-14s-14w, February, 1935. **Means of Discovery:** Subsurface geology. **Type of Structure:** Anticline. **Producing Formations:** Oswald lime, 2950 to 3010 ft, granite wash, 3220 ft. **Producing Area:** 300 acres. **Extent of Development:** Field consists of inside locations to be drilled. It may be expanded. **Deepest Test:** One well drilled to 3285 ft in granite wash and plugged back. **Produced to 1937:** 139,600 bbls; 38 gravity. **Oil Outlet:** Kaw Pipe Line Co. **Producing Wells:** 13. **Principal Leaseholders:** Crown-Sacco, Empire Oil & Refining Co., Hartman & Blair, Skelly Oil Co., Stanolind Oil & Gas Co., The Texas Co.

GURNEY (SOUTH)

In T 14s, R 14w. **Discovery Well:** Billings et al's Nerbel 1, NE NE NW 35-14s-14w, Sept., 1936. **Means of Discovery:** Trend.



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Type of Structure: Anticline. **Producing Formations:** Oswald lime, 2923 to 3100 ft; Gorham sand, 3192 ft. **Producing Area:** 140 acres. **Extent of Development:** Area yet to give indication of final size. **Deepest Test:** 3192 ft. **Produced to 1937:** 7000 bbls; 38 gravity. **Oil Outlet:** Kaw Pipe Line Co., Stanolind Pipe Line Co. **Wells Producing:** 3. **Rigs Running:** 3. **Principal Leaseholders:** Alva Billings, Empire Oil & Refining Co. **Remarks:** It is likely that this field and Gurney proper are on the same anticline. South Gurney is not far enough away to discount future conection with the other field.

HALL

In T 14s, R 13w. **Discovery Well:** J. H. Hall's Miller 1, SW SE SE 30-14s-13w, May, 1931. **Means of Discovery:** Core drill. **Type of Structure:** Anticline. **Producing Formations:** Oswald lime, 2900 to 3000 ft; Siliceous lime, 3300 to 3450 ft. **Producing Area:** 250 acres. **Extent of Development:** Current drilling will determine further extensions of the producing area. **Produced to 1937:** 329,700 bbls; 38 and 40 gravity. **Oil Outlet:** Kaw Pipe Line Co. **Producing Wells:** 19. **Rigs Running:** 4. **Principal Leaseholders:** J. H. Hall, Russell Refining Co., Skelly Oil Co., Smoky Hill Oil Co., Yankey & Stearns.

HARBAUGH

In T 14s, R 15w. **Discovery Well:** Hartman & Blair's Harbaugh 1, NE NE SW 25-14s-14w, March, 1936. **Means of Discovery:** Subsurface geology. **Type of Structure:** Anticline. **Producing Formations:** Oswald lime, 3140 ft; Siliceous lime, 3200 ft. **Producing Area:** 280 acres. **Extent of Development:** Field not defined by drilling but area is considered relatively small. **Produced to 1937:** 123,000 bbls; 37 and 41 gravity. **Oil Outlet:** Kaw Pipe Line Co. **Producing Wells:** 16. **Rigs Running:** 7. **Principal Leaseholders:** Hartman & Blair, National Refining Co., Ohio Oil Co., Skelly Oil Co.

BIG CREEK

In T 14s, R 14w and 15w. **Discovery Well:** Wakefield & Armer's Hall 1, NE SE SW 36-14s-15w, July, 1935. **Means of Discovery:** Geological trend. **Type of Structure:** Anticline. **Producing Formations:** Oswald lime, 2980 to 3030 ft; Siliceous lime, 3160 to 3190 ft. **Producing Area:** 600 acres. **Produced to 1937:** 66,400 bbls; 37 gravity. **Oil Outlet:** Kaw Pipe Line Co. **Producing Wells:** 5. **Principal Leaseholders:** Gulf Oil Corp., Phillips Petroleum Co. **Remarks:** Extension of this pool both north and south is possible; in area having repaid development.

KARST

In T 15s, R 14w. **Discovery Well:** Nassau Oil Corp.'s Karst 1, NW SW NE 27-15s-14w, Oct., 1935. **Means of Discovery:** Subsurface geology. **Type of Structure:** Anticline. **Producing Formation:** Siliceous lime, 3310 ft. **Producing Area:** 80 acres. **Extent of Development:** 2 north offsets have been dry. **Produced to 1937:** 31,200 bbls; 36 gravity. **Oil Outlet:** Kaw Pipe Line Co. **Producing Wells:** 5. **Principal Leaseholders:** Barnsdall Oil Co., Nassau Oil Corp.

LETCH

In T 14s, R 13w. **Discovery Well:** Darby Petroleum Corp. and Continental Oil Co.'s Letch 1, SE NE NW 34-14s-13w, June, 1936. **Means of Discovery:** Core drill. **Type of Structure:** Anticline. **Producing Area:** 80 acres. **Producing Formation:** Kansas City lime, 2850 ft. **Deepest Test:** Discovery well drilled into granite at 3265 ft. and plugged back. **Extent of Development:** 1 well. **Produced to 1937:** 4000 bbls; 38 gravity. Oil Outlet: Kaw Pipe Line Co. **Wells Producing:** 1. **Principal Leaseholders:** Continental Oil Co., Darby Petroleum Corp.

MILLBERGER

In T 14s, R 14w. **Discovery Well:** Kirk & Jones' Millberger 1, NE NW NW 7-14s-14w, May, 1935. **Means of Discovery:** Surface trend. **Producing Formation:** Siliceous lime, 3310 ft. **Producing Area:** 80 acres. **Extent of Development:** Because of small output no drilling campaign has been adopted. **Produced to 1937:** 12,400 bbls; 35 gravity. **Oil Outlet:** Kaw Pipe Line Co. **Wells Producing:** 2. **Principal Leaseholders:** Kirk & Jones, Phillips Petroleum Co.

NEIDENTHAL

In T 14s, R 15w. **Discovery Well:** Lario Oil & Gas Co.'s Neidenthal 1, NE NE NE 23-14s-14w, August, 1934. **Means of Discovery:** Subsurface geology. **Type of Structure:** Anticline. **Producing Formation:** Siliceous lime, 3250 ft. **Producing Area:** 210 acres. **Extent of Development:** Probable that field will be larger than now indicated. Some inside locations yet to be drilled. **Produced to 1937:** 482,400 bbls; 40 gravity. **Oil Outlet:** Kaw Pipe Line Co. **Producing Wells:** 14. **Principal Leaseholders:** Gulf Oil Corp., Lario Oil & Gas Co., Phillips Petroleum Co., The Texas Co.

OCHS

In T 15s, R 14w. **Discovery Well:** Empire Oil & Refining Co.'s Ochs 1, SE NE NE 23-15s-14w, Oct., 1929. **Means of Discovery:** Core drill. **Type of Structure:** Anticline. **Producing Formation:** Siliceous lime, 3330 to 3375 ft. **Producing Area:** 450 acres. **Extent of Development:** Field still has inside locations to be drilled. It may have extensions. **Produced to 1937:** 630,368 bbls; 36 gravity. **Oil Outlet:** Kaw Pipe Line Co. **Producing Wells:** 10. **Principal Leaseholder:** Empire Oil & Refining Co.

PETERSON

In T 14s, R 15w. **Discovery Well:** Braden & McClure's Peterson 1, NWc 12-14s-15w, Nov., 1936. **Means of Discovery:** Producing trend. **Type of Structure:** Anticline. **Producing Formation:** Siliceous lime, 3293 ft. **Producing Area:** 80 acres. **Extent of Development:** Failure two locations south of discovery and a failure west of discovery. **Produced to 1937:** 10,900 bbls. **Oil Outlet:** Kaw Pipe Line Co. **Remarks:** Further drilling may connect this pool with either Millberger or Sullivan.

RUDE

In T 15s, R 13w. **Discovery Well:** Signal Oil Co.'s Rude 1, NE SE SE 28-15s-13w, Dec., 1930. **Means of Discovery:** Surface indications. **Producing Formation:** Siliceous lime, 3350 ft. **Pro-**

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ducing Area: 80 acres. **Extent of Development:** 2 offsets were dry indicating that expansion will be along a narrow trend. **Deepest Test:** 3440 ft. **Remarks:** 1-well pool, not prorated. Production record not available.

RUSSELL

In T 13s, R 14w. **Discovery Well:** Tom Palmer's Steinele 1, NW NW SW 22-13s-14w, Feb., 1934. **Means of Discovery:** Surface geology. **Type of Structure:** Dome. **Producing Formations:** Kansas City lime, 3200 ft; Siliceous lime, 3275 ft. **Producing Area:** 730 acres. **Extent of Development:** Field defined as to area. Inside locations yet to be drilled. **Production to 1937:** 2,401,900 bbls; 36 and 41 gravity. **Oil Outlet:** Stanolind Pipe Line Co., Kaw Pipe Line Co. **Producing Wells:** 47. **Rigs Running:** 3. **Principal Leaseholders:** Aylward Brothers, E. K. Carey, Tom Palmer, British American Oil Producing Co., Empire Oil & Refining Co., Hartman & Blair, Skelly Oil Co. **Remarks:** Kansas City lime production is small.

SELLENS

In T 15s, R 13w. **Discovery Well:** T. B. Slick's Sellens 1, SW SW NE 36-15s-13w, June, 1929. **Means of Discovery:** Core drill. **Type of Structure:** Anticline. **Producing Formations:** Kansas City lime, 3100 ft; Siliceous lime, 3350 ft. **Productive Area:** 600 acres. **Extent of Development:** Field not defined in area and inside acreage is yet to be drilled fully. **Produced to 1937:** 1,536,900 bbls; 37 and 38 gravity. **Oil Outlet:** Kaw Pipe Line Co. **Wells Producing:** 24. **Rigs Running:** 2. **Principal Leaseholders:** Hartman & Blair, Phillips Petroleum Co., Sinclair Prairie Oil Co., W. I. Southern, Inc., Transwestern Oil Co.

STEINERT

In T 15s, R 15w. **Discovery Well:** Lario Oil & Gas Co.'s Steinert 1, NW NW SW 21-15s-15w, July, 1929. **Means of Discovery:** Surface geology. **Producing Formation:** Kansas City lime, 3075 ft. **Producing Area:** 100 acres. **Extent of Development:** 1 well. **Produced to 1937:** 7800 bbls; 35 gravity. **Oil Outlet:** Kaw Pipe Line Co. **Wells Producing:** 1. **Principal Leaseholder:** Lario Oil & Gas Co. **Remarks:** Initial output of discovery well on potential was 730 barrels of oil and 20 percent water.

SULLIVAN

In T 13 and 14s, R 15w. **Discovery Well:** Hartman & Blair's Sullivan 1, NE NE SE 2-14s-15w, Feb., 1925. **Means of Discovery:** Subsurface geology. **Type of Structure:** Anticline. **Producing Formations:** Topeka lime, 2785 ft; Kansas City lime, 2050 to 3100 ft; Tarkio lime, 2526 ft; Erlich sand, 3060 ft; Gorham sand, 3315 ft; Siliceous lime, 3225 ft. **Producing Area:** 920 acres. **Extent of Development:** Field is nearing its full expansion. **Produced to 1937:** 1,044,800 bbls; 36 to 40 gravity. **Oil Outlet:** Kaw Pipe Line Co., Russell Refining Co. **Wells Producing:** 91. **Rigs Running:** 5. **Principal Leaseholders:** Alva Billings, Bridgeport Machine Co., Central Petroleum Co., Darby Petroleum Corp., Empire Oil & Refining Co., Gulf Oil Corp., Hartman & Blair, The Texas Co., Transwestern Oil Co., Phillips Petroleum Co., A. H. Witt, Wolf Creek Oil Co. **Remarks:** Closely associated with the Gorham pool and logically could be included with it.

TRAPP

In T 15s, R 13w. **Discovery Well:** Coralena Oil Co.'s Trapp 1, SEc 30-15s-13w, March, 1936. **Means of Discovery:** Surface geology and production trend. **Type of Structure:** Anticline. **Producing Formation:** Siliceous lime, 3250 ft. **Producing Area:** 880 acres. **Extent of Development:** Field had rapid development, inside locations still being drilled, extensions probable. **Produced to 1937:** 427,800 bbls; 38 gravity. **Oil Outlet:** Kaw Pipe Line Co. **Wells Producing:** 81. **Rigs Running:** 25. **Principal Leaseholders:** Coralena Oil Co., Derby Oil Co., Empire Oil & Refining Co., Phillips Petroleum Co., Shell Petroleum Corp., Skelly Oil Co. **Remarks:** One of the outstanding discoveries of western Kansas during 1936.

TRAPP NORTH

In T 15s, R 13w. **Discovery Well:** Coralena Oil Co.'s Sellens 1, SW SE SW 20-15s-13w, June, 1936. **Means of Discovery:** Trend on surface. **Type of Structure:** Anticline. **Producing Formation:** Kansas City lime, 3050 ft; Siliceous lime, 3075 ft. **Producing Area:** 80 acres. **Extent of Development:** One dry hole between North Trapp and Trapp pools, field may be extended north. **Produced to 1937:** 15,800 bbls; 37 gravity. **Oil Outlet:** Kaw Pipe Line Co. **Wells Producing:** 3. **Principal Leaseholders:** Coralena Oil Co., Gulf Oil Corp. W. I. Southern, Inc.

WILLIAMSON

In T 14s, R 14w. **Discovery Well:** R. C. Tarrant's Williamson 1, SE SE NW 9-14s-14w, Feb., 1936. **Means of Discovery:** Surface trend. **Producing Formations:** Tarkio lime, 2525 ft; Gorham sand, 3294 ft. **Producing Area:** 120 acres. **Extent of Development:** Field undefined, due to have further drilling with extensions indicated. **Produced to 1937:** 10,600 bbls; 35 gravity. **Oil Outlet:** Kaw Pipe Line Co. **Wells Producing:** 3. **Rigs Running:** 1. **Principal Leaseholders:** Empire Oil & Refining Co., R. C. Tarrant.

SCOTT COUNTY

SHALLOW WATER

In T 20s, R 33w. **Discovery Well:** Atlantic Refining Co.'s Vaniman 1, C SE NE 15-20s-33w, Jan., 1935. **Means of Discovery:** Subsurface geology. **Type of Structure:** Anticline. **Producing Formation:** Mississippi lime, 4670 to 4750 ft. **Producing Area:** 140 acres. **Extent of Development:** Field undeveloped, south location dry at 5509 ft. **Produced to 1937:** 34,050 bbls; 26 gravity. **Oil Outlet:** No pipe line, oil being shipped out and sold for fuel oil for others drilling in area. **Wells Producing:** 3. **Principal Leaseholder:** Atlantic Refining Co. **Remarks:** Westernmost com-

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FRONT VIEW showing evenness of wear around bolt holes

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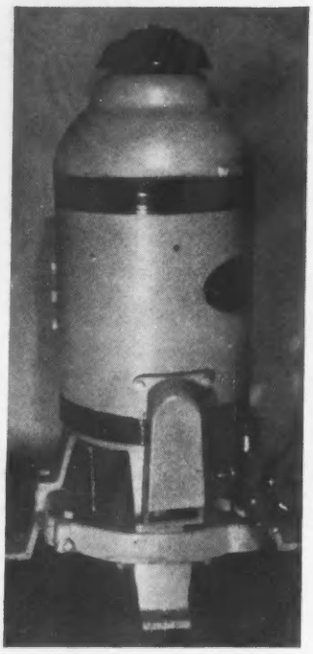

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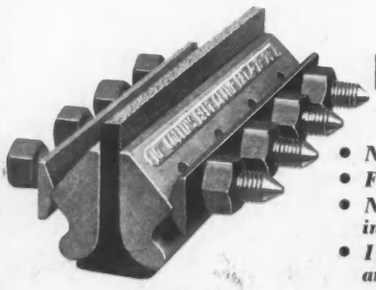

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mercial production in Kansas. Lack of outlet and depth of production has retarded development as well as testing of other favorable structures in the area.

SEDGWICK COUNTY

BENTLEY

In T 25s, R 1w. **Discovery Well:** Hartman et al's Jones 1, C NW SW 19-25s-1w, March, 1934. **Means of Discovery:** Surface geology. **Producing Formation:** Oswald lime, 2912 ft. **Producing Area:** 80 acres. **Deepest Test:** Discovery well was carried to 3500 ft and plugged back. **Produced to 1937:** 5100 bbls; 34 gravity. **Oil Outlet:** Derby Oil Co. **Wells Producing:** 1. **Principal Leaseholder:** Hartman and associates.

CHENEY

In T 27s, R 4w. **Discovery Well:** Derby Oil Co.'s Bartholomew 1, SW SW NW 8-27s-1w, Nov., 1935. **Means of Discovery:** Seismograph. **Producing Formation:** Viola lime, 4020 ft. **Producing Area:** 80 acres. **Extent of Development:** 1 well. **Deepest Test:** Discovery well went into Siliceous lime to 4155 ft, then plugged back. **Produced to 1937:** 5600 bbls; 38 gravity. **Remarks:** This well has had no recent production.

CROSS

In T 25s, R 1w. **Discovery Well:** Connell Petroleum Co.'s Cross 1, NEc 27-25s-1w, March, 1929. **Means of Discovery:** Surface geology. **Type of Structure:** Monocline. **Producing Formation:** Kansas City lime, 2700 ft. **Producing Area:** 220 acres. **Extent of Development:** Producing area defined. **Deepest Test:** Discovery well drilled to 3652 ft and plugged back. **Produced to 1937:** 33,000 bbls; 35 gravity. **Oil Outlet:** Sinclair Prairie Pipe Line Co. **Wells Producing:** 4. **Principal Leaseholders:** Connell Petroleum Co., Argo Oil Co., Sinclair Prairie Oil Co.

CURRY

In T 27s, R 1w. **Discovery Well:** Plains Petroleum Co.'s Curry 1, SE SW SW 2-27s-1w, Oct., 1929. **Remarks:** No recent production; well was completed in Viola lime at 3390 ft.

SCHULTE

In T 28s, R 1w. **Discovery Well:** Shoreline Oil Co.'s Jordan 1, NW SW SE 6-28s-1w. **Means of Discovery:** Core drill. **Type of Structure:** Monocline. **Producing Formation:** Wilcox sand, 3660 ft. **Produced to 1935:** 67,600 bbls; 44 gravity. **Remarks:** One a few instances of Wilcox sand production in western Kansas. Abandoned in 1935.

VALLEY CENTER

In T 25 and 26s, R 1w and T 26s, R 1e. **Discovery Well:** Bu-Vi-Bar Oil Co.'s Wright 1, SE NE SE 12-26s-1w, August, 1928. **Means of Discovery:** Surface geology and core drill. **Type of Structure:** Dome. **Producing Formations:** Kansas City lime, 2625 ft; Viola lime, 3360 ft. **Producing Area:** 1500 acres. **Extent of Development:** Field defined. **Produced to 1937:** 18,500,200 bbls; 43 gravity. **Oil Outlets:** Continental Oil Co., Derby Oil Co., Sinclair Prairie Pipe Line Co., Skelly Oil Co. **Producing Wells:** 80. **Principal Leaseholders:** Continental Oil Co., Gulf Oil Corp., Skelly Oil Co., L. H. Wentz, Inc. **Remarks:** One of the outstanding pools, which encouraged further drilling in western Kansas.

STAFFORD COUNTY

GATES

In T 21s, R 13w. **Discovery Well:** Atlantic Refining Co.'s Gates 1, C NW SE 27-21s-13w, May, 1933. **Means of Discovery:** Seismograph and core drill. **Type of Structure:** Anticline. **Producing Formation:** Siliceous lime, 3700 ft. **Producing Area:** 80 acres. **Produced to 1937:** 270,000 bbls; 38 gravity. **Oil Outlet:** Stanolind Pipe Line Co. **Wells Producing:** 4. **Principal Leaseholder:** Atlantic Refining Co.

JORDAN

In T 25s, R 14w. **Discovery Well:** Empire Oil & Refining Co.'s Jordan 1, SW C NW 15-25s-14w, Jan., 1937. **Means of Discovery:** Core drill and surface indications. **Type of Structure:** Dome. **Producing Formation:** Oswald lime, 3725 to 3835 ft. **Producing Area:** 80 acres. **Deepest Test:** The discovery well found salt water in Siliceous lime at 4267 ft and was plugged back. **Principal Leaseholders:** Empire Oil & Refining Co., Skelly Oil Co. **Remarks:** Has no pipe line outlet and no recorded output. Oil is 37 gravity.

KIPP

In T 25s, R 14w. **Discovery Well:** Skelly Oil Co.'s Kipp 1, SE SE NE 27-25s-14w, Jan., 1937. **Means of Discovery:** Surface geology and core drill. **Type of Structure:** Dome. **Producing Formation:** Oswald lime, 3900 ft. **Producing Area:** 80 acres. **Principal Leaseholders:** Empire Oil & Refining Co., Skelly Oil Co. **Remarks:** Has no outlet and no recorded production. Pipe line outlet due at early date. Some oil being removed by truck. Oil is 37 gravity.

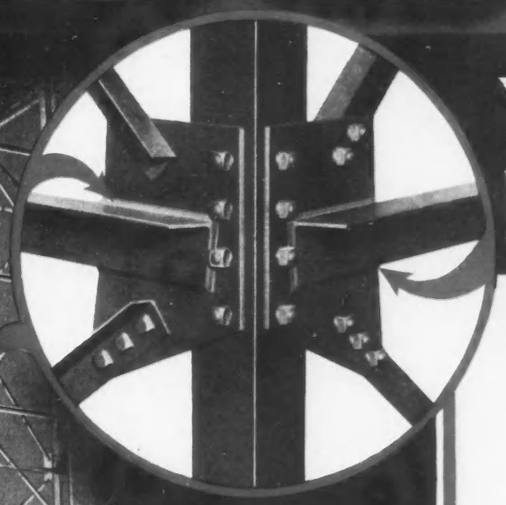
RICHARDSON

In T 22 and 23s, R 11w; T 22 and 23s, R 12w. **Discovery Well:** Stanolind Oil & Gas Co.'s Richardson 36, SE C 36-22s-12w, Sept., 1930. **Means of Discovery:** Core drill and seismograph. **Type of Structure:** Faulted anticline. **Producing Formation:** Siliceous lime, 3550 to 3600 ft. **Producing Area:** 1320 acres. **Extent of Development:** Drilling in progress for inside locations. Extensions still possible but not indicated. **Produced to 1937:** 1,611,700 bbls; 41 gravity. **Oil Outlet:** Stanolind Pipe Line Co. **Wells Producing:** 29. **Rigs Running:** 5. **Principal Leaseholders:** Atlantic Refining Co., Stanolind Oil & Gas Co.

RILEY

In T 22s, R 11w. **Discovery Well:** C. B. Davis et al's Riley 1, SEc 19-22s-11w, July, 1935. **Means of Discovery:** Surface geology and production trend. **Producing Formation:** Siliceous lime, 3600 ft. **Producing Area:** 80 acres. **Extent of Development:** One offset

IDECO



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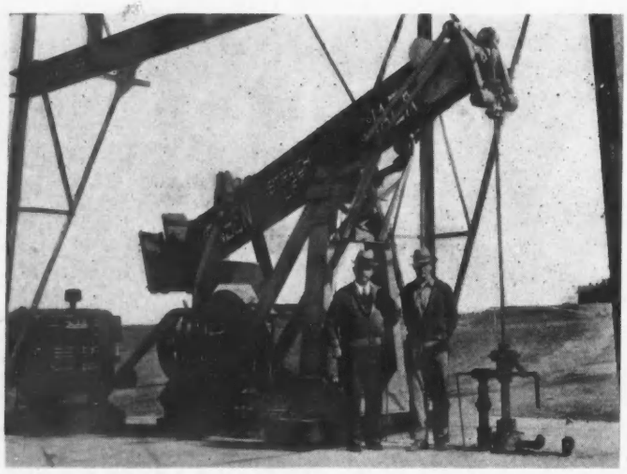

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to northwest and one to northeast, dry. **Produced to 1937:** 117,435 bbls, 41 gravity. **Oil Outlet:** Stanolind Pipe Line Co. **Producing Wells:** 5. **Principal Leaseholders:** C. B. Davis and associates, Stanolind Oil & Gas Co.

SNIDER

In T 21s, R 11w. **Discovery Well:** Farris et al's Snider 1, SE SE NW 3-21s-11w. **Type of Structure:** Anticline. **Producing Formations:** Kansas City lime, 3100 ft; Siliceous lime, 3325 ft. **Producing Area:** 160 acres. **Extent of Development:** 3 edge failures indicate that field is defined. **Produced to 1937:** 40,000 bbls, 36 and 42 gravity. **Oil Outlet:** Sinclair Prairie Pipe Line Co. **Producing Wells:** 4. **Principal Leaseholders:** Empire Oil & Refining Co., E. Wakefield.

ST. JOHN

In T 24s, R 13w. **Discovery Well:** Lario Oil & Gas Co.'s Tudor-Morgan 1, SE SE NW 23-24s-13w, May, 1935. **Means of Discovery:** Surface and subsurface geology. **Type of Structure:** Anticline. **Producing Formation:** Kansas City lime 3600 ft. **Producing Area:** 80 acres. **Extent of Development:** Possibility of extending acreage of production are good. **Produced to 1937:** 30,300 bbls, 35 gravity. **Oil Outlet:** Stanolind Pipe Line Co. **Producing Wells:** 5. **Rigs Running:** 2. **Principal Leaseholders:** Empire Oil & Refining Co., Lario Oil & Gas Co., Stanolind Oil & Gas Co.

STEVENS-MORTON COUNTIES

HUGOTON (Gas)

Hugoton, or Liberal, gas area of southwest Kansas, most important and active gas area of state, is treated in separate article. Included in the discussion are the following areas of gas production: Holcomb, 25s-34w, Finney County; New Ulysses, 29s-28w and Hickok, 29s-36w, in Grant County, Satanta, 30s-34w, in Haskell County; Arkalon, 33s-33w, Seward County; Liberal, 34s-35w, Seward County; and Hugoton, including 12 townships in Morton, Grant, Stevens and extending into Oklahoma Panhandle.

SUMNER COUNTY

ANSON (Gas)

In T 30s, R 2w. **Discovery Well:** DeForrest Drilling Co.'s Meyers 1, SEc 26-30s-2w, April, 1928. **Means of Discovery:** Wildcat test. **Producing Formation:** Howard lime. **Extent of Development:** Drilling not extensive. Possibility of oil production in lower sands. **Principal Leaseholder:** DeForrest Drilling Co. **Remarks:** Gas production from shallow depths is common in this section.

CALDWELL

In T 35s, R 3w. **Discovery Well:** Gulf Oil Corp.'s Williams 1, 16-35s-3w, April, 1929. **Means of Discovery:** Core drill. **Type of Structure:** Dome. **Producing Formation:** Wilcox sand, 4772 ft. **Producing Area:** 180 acres. **Extent of Development:** Limited by dry holes north and east. **Produced to 1937:** 1,092,950 bbls, 47 gravity. **Oil Outlet:** Gulf Oil Corp. **Producing Wells:** 4. **Principal Leaseholder:** Gulf Oil Corp. **Remarks:** This field extends into Grant County, Oklahoma. It has one of highest per-well and per-acre yields in western Kansas.

CORBIN

In T 34s, R 2w. **Discovery Well:** Gulf Oil Corp.'s Douglas 1, NE SE NW 23-34s-2w, July, 1927. **Means of Discovery:** Core drill. **Producing Formation:** Wilcox sand, 4500 ft. **Remarks:** Produced oil of 46 gravity from Wilcox sand. It has been abandoned.

LATTA

In T 30s, R 2w. **Discovery Well:** Champlin Refining Co.'s Latta 1, SW SE NW 9-30s-2w, June, 1927. **Means of Discovery:** Wildcat test. **Producing Formation:** Oswald lime, 3050 ft. **Producing Area:** 240 acres. **Extent of Development:** Defined by dry holes. **Deepest Test:** Dry at 4220 ft. **Produced to 1937:** 340,000 bbls, 40 gravity. **Oil Outlet:** Champlin Refining Co. **Wells Producing:** 5. **Principal Leaseholder:** Champlin Refining Co.

WELLINGTON

In T 31s, R 1w. **Discovery Well:** Transwestern Oil Co.'s Peasel 1, December, 1929. **Means of Discovery:** Core drill. **Type of Structure:** Monocline. **Producing Formation:** Chat, 3650 to 3675 ft. **Producing Area:** 930 acres. **Extent of Development:** Evidently defined. **Produced to 1937:** 1,376,000 bbls, 42 gravity. **Oil Outlet:** Kanotex Refining Co. **Wells Producing:** 67. **Rigs Running:** 12. **Principal Leaseholders:** Continental Oil Co., Ohio Oil Co., Rose Spring Drilling Co., E. B. Shawyer, Sinclair-Prairie Oil Co., The Texas Co., Transwestern Oil Co., Vickers Petroleum Co. **Remarks:** This field is being produced under strict practices dictated by good engineering data.

TREGO COUNTY

HOLCOMB

In T 11s, R 23w. **Discovery Well:** Continental Oil Co.'s Holcomb 1, C EL NW 26-11s-23w. **Means of Discovery:** Surface escarpment. **Type of Structure:** Dome. **Producing Formation:** Oswald lime, 3630 ft. **Producing Area:** 120 acres. **Produced to 1937:** 15,200 bbls, 40 gravity. **Oil Outlet:** Kaw Pipe Line Co. **Wells Producing:** 2. **Principal Leaseholder:** Continental Oil Co.

WAKEENEY

In T 11s, R 23w. **Discovery Well:** Alma Petroleum Corp.'s Rhodes 1, SWc 14-11s-23w, August, 1934. **Means of Discovery:** Surface geology. **Type of Structure:** Anticline **Producing Formation:** Kansas City lime, 3625 ft. **Producing Area:** 300 acres. **Produced to 1937:** 75,300 bbls, 39 gravity. **Oil Outlet:** Kaw Pipe Line Co. **Wells Producing:** 9. **Principal Leaseholders:** Robert McNeeley, Watchorn Oil & Gas Co.

MEN IN THE INDUSTRY'S NEWS

JACK J. DOYLE, OF LOS ANGELES, IS ELECTED PRESIDENT OF OIL PRODUCERS AGENCY OF CALIFORNIA

HE SUCCEEDS R. A. BROOMFIELD; NEW VICE PRESIDENTS AND DIRECTORS ALSO ELECTED

JACK J. DOYLE, well known Los Angeles oil man, has been elected president of the Oil Producers Agency of California. The new president of the agency is also president of Doyle Petroleum Corporation, Elyod Oil Company, and general manager of Doyle-Clune Oil Company. His companies are active in Maricopa, Fruitvale, Signal Hill, Santa Fe Springs, and Jasmine, as well as having holdings in Texas and Oklahoma.

In addition to electing a new president, the agency board also elected three new vice presidents and a secretary-treasurer. C. C. Spicer, president of Republic Petroleum Company; Laurence C. Kelly, vice president of Thos. Kelly & Sons, Inc.; and William J. Schultz, president, Crescent Petroleum Company, are the new vice presidents; and Frank Travers, of South Basin Oil Company is the new secretary-treasurer.

Reelected vice presidents were, William H. Geis, president, Arrowhead Oil Company; Lloyd Williamson, general superintendent, California Star Oil Company; Lawrence Vander Leck, vice president, Fullerton Oil Company. Executive vice president Rush M. Blodget, and assistant secretary-treasurer, H. A. Bardeen, president of Bardeen Oil Company, were also reelected.

JACK J. DOYLE

Four new directors were elected to office at the annual election meeting. They were Charles A. La Fever, Huntington-Signal Oil Company; J. H. Royer, superintendent, Birch-Royer Oil Company; Robert Lytle, manager field operations, Petroleum Securities Corporation; and L. L. Aubert, general manager, Bankline Oil Company.

Other directors reelected were: A. E. Bell, R. M. Blodget, J. J. Doyle, Wm. H. Geis, R. E. Havenstrite, L. C. Kelly, A. C. Mattei, W. H. Morgan, W. J. Schultz, L. Vander Leck, N. H. Anderson, A. J. Crites, L. E. Doan, M. Dozier, Jr., Robt. Garrison, Dana Hogan, Ralph B. Lloyd, Frank Travers, C. P. Watson, H. E. Woodworth, Roy W. Young, W. L. Adkisson, H. A. Bardeen, R. A. Broomfield, W. S. Fisher, Earl Fleisher, A. S. Johnston, S. B. Mosher, C. C. Spicer, Lawrence Weill and Lloyd Williamson.

Retiring president, R. A. Broomfield, executive vice president of Barnsdall Oil Company, was presented with a resolution of appreciation for his services to the agency during the past 18 months, the presentation being made by temporary chairman of the meeting, William H. Geis.

EYKE BRANCH, Huasteca Petroleum Company, Mexico City, has been transferred to Panama.

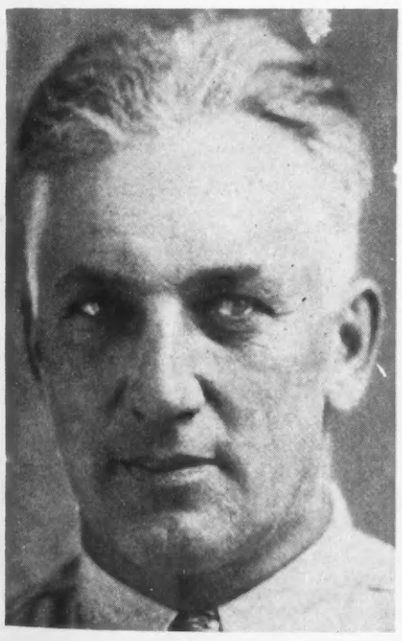
BURR McWHIST has resigned as valuation engineer with Shell Petroleum Corporation at Houston, effective April 1, to accept a position as an engineer with the Bureau of Internal Revenue and will be stationed in Washington.

WINFIELD S. ZEHRUNG, who joined The Pennzoil Company as chemist in 1919 and who recently has been vice president in charge of sales, was named president of the company when directors held their annual meeting in Oil

Two Continental Men Get Life Saving Awards

W. J. LUECK and A. E. CROUSE, Continental Oil Company employees in the Tepetate, Louisiana, field were presented special National Safety Council awards April 24 at Eunice, Louisiana, for bravery in saving the life of Mrs. Ruth Bates Blackwell, who was overcome by gas while in her home on December 8, 1936. Lueck and Crouse restored Mrs. Blackwell after two hours of artificial respiration.

The awards were made at a public meeting in the American Legion hall, with city officials, boy scouts and prominent citizens in attendance. T. R. Batte, superintendent of production for Continental Oil Company on the Gulf Coast, presided at the meeting and presented the awards. The president's medal and certificate were awarded A. E. Crouse, and the certificate to W. J. Lueck. Batte spoke on "Organization and Purposes of the National Safety Council," and Miss Helen Batte made a short talk on "Facts Concerning President's Medal Award of National Safety Council."



W. J. LUECK

A. E. CROUSE

City last week. He succeeds Robert S. King, whose resignation became effective April 1.

A native of Montpelier, Indiana, Zehrung served in the United States Army Air Corps before affiliating with The Pennzoil Company. While with the company, he was successively chemist, chief chemist, assistant refinery superintendent, manager of industrial sales, sales manager and general manager. For some time past he has held the office of vice president in charge of sales. He is a member of the American Society for Testing Materials and the American Chemical Society.

Maurice A. Brewster, treasurer, was named vice president and treasurer, and J. E. Vandeventer was named assistant secretary. Officers re-elected are Charles L. Suhr, chairman of the board; R. A. Browne, secretary, and W. J. Dempsey, assistant treasurer.

D. S. BUSHNELL, J. A. Bartlett, J. H. Piper, J. P. Blackford and E. D. Harris were named directors of the Northern Pipe Line Company when the organization held its annual meeting in Oil City last week. Officers elected by directors are: D. S. Bushnell, president; J. A. Bartlett, vice president and general manager; P. R. Applegate, vice president in charge of operations; J. R. Fast, secretary, and C. H. Clever, treasurer.

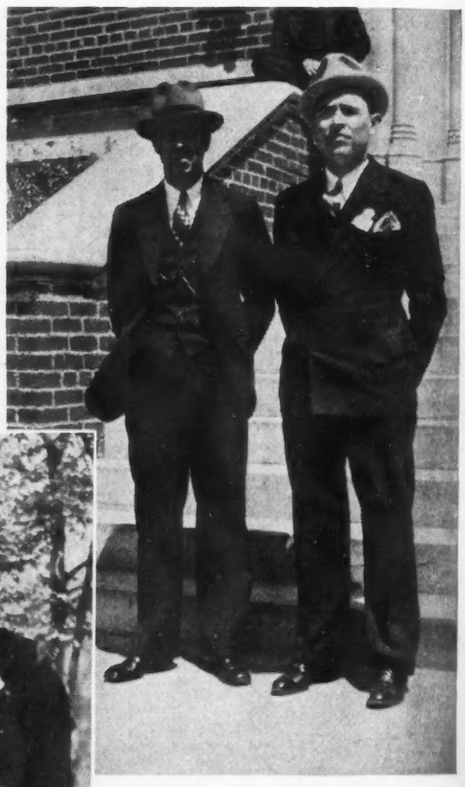
JOSH S. COSDEN has been elected president of the Cosden Petroleum Corporation, which succeeded the Cosden Oil Corporation after a reorganization under Section 77B of the Bankruptcy Act. Other officers are: A. G. Reed, W. D. Richardson and Henry Zweifel, Fort Worth, vice presidents; and J. W. Lane, secretary-treasurer.

ALLAN T. TOWL, T. C. Towl, R. L. Cronise, D. L. Jolly and W. H. Fisher are directors elected last at the annual meeting of Southwest Pennsylvania Pipe Lines in Oil City. Directors met and named the following officers: Forrest M. Towl, chairman of the board; Allan T.

Shown below are E. E. Stovall and Gilbert Estill, retiring general chairman and new chairman respectively. Stovall (left) is with Lone Star Gas Company, Dallas, and Estill is gas superintendent of gas measurement for Oklahoma Natural Gas Company, Tulsa.

The two men below are Fay C. Walters (left) and Pat H. Miller, superintendent and assistant of measurement, respectively, for Panhandle Eastern Pipe Line Company. Both lend their time to advancing the short course each year.

Scenes at the Gas Measurement Short Course School Norman, Oklahoma April 20-22, 1937



To the right is Professor W. H. Carson of the University of Oklahoma, whose interest and support of the Gas Measurement Short Course is largely responsible for its success.

Max Watson, left, is head of gas measurement for Canadian River Gas Company. As chairman of the exhibits committee, Watson finds plenty to do prior to each yearly program.

COMPARE

THESE ADVANTAGES WHEN CONSIDERING POWER

PURCHASED ELECTRIC POWER

- ★ Low Installation Cost
- ★ Greater Efficiency
- ★ Easily hauled from one location to another
- ★ Greater salvage value

LOW OPERATING COSTS

OTHER METHODS

- ★ Higher Installation Costs
- ★ Average Efficiency
- ★ Equipment difficult to transfer from one location to another
- ★ Low salvage value

HIGH OPERATING COSTS

PROFIT BY USING Purchased ELECTRIC POWER

PETROLEUM ELECTRIC POWER CLUB

Towl, president; T. C. Towl, vice president and general manager; J. M. Tussey, vice president and treasurer, and E. W. Ziegler ,secretary. Appointive officers of the company are: D. L. Thomas, assistant secretary and assistant treasurer; G. W. Williams and T. J. Stewart, assistant secretaries; E. W. Ziegler, assistant treasurer; W. R. Daugherty, general auditor; H. C. Dorworth, solicitor, and W. H. Fisher, superintendent.

CHARLES E. YAGER, chief geologist for Texas Pacific Coal & Oil Company, Fort Worth, has been elected a member of the board of directors. He succeeds Dr. E. R. Lederer, resigned.

W. R. BROWN has succeeded Maurice Bridgeman as representative in the United States of Anglo-Iranian Oil Company, Limited. Brown's office is in New York.

W. J. PETTIS, of Lawrenceville, Illinois, has retired after 34 years as shooter in Indiana, Illinois and Kentucky oil fields.

HARRY E. BLAUSER, Oil City, Pennsylvania, received a fractured skull when the pull rod elevator fell from the top of a 50-foot mast on Brundred Oil Corporation lease last week.

JOHN E. ADAMS, of Standard Oil Company of Texas; John Skinner, Humble Oil & Refining Company, and Professor Berte Haigh, former Texas College of Mines instructor and now associated with the University Land Survey, conducted 90 El Paso and visiting geologists on a survey of formations in the Hueco mountains April 24. Professor L. A. Nelson, College of Mines geologist, was field guide on a trip to the McKelligon Canyon to study formations of the Franklin Range, April 25.

JAMES W. FINLEY, general counsel for the Empire Companies at Bartlesville, has resigned, effective June 1 and will retire. A statement by H. R. Straight, vice president and general manager stated Finley would move to Denver, Colorado. Finley is a graduate of Drake University at Des Moines, Iowa. For 10 years he was district court judge at Chanute, Kansas, and a member of the Kansas senate before going to Bartlesville to join Empire in 1926.

WAYNE GERBER, a graduate of mining and petroleum engineering at Ohio State University, has joined the Oklahoma City office of Phillips Petroleum Company. He was formerly an engineer for Columbus Railway Power and Light Company.

E. H. McLEOD, H. P. McLeod and W. D. Nelson, of Calgary; Louis Kelly and A. McLeod, of Turner Valley, and J. R. McLeod, of Bawlf, were elected directors of the McLeod Oil Company, Ltd., pioneer operating company in the Turner Valley field of Alberta, Canada, when shareholders held their annual meeting last week.

HERBERT GREENFIELD, former premier of Alberta, Canada, was re-elected president of the Oil & Gas Association of Alberta at a recent meeting in Calgary. A. H. Mayland was re-elected vice president. Members of the executive committee are J. H. Goodwin, W. S. Herron, Everett Marshall, F. G. Bird, and R. A. Brown, Jr.

B. L. WOOLEY, M. T. Halbouty and Alex R. Dearborn, Jr., have organized Merit Oil Company, Inc. The new concern commenced operating May 1 at 801-02-03-04 Shell Building, Houston. It will be engaged in drilling, production, leasing and producing royalty work. Woolley, a prominent oil man of Dallas, is president of the company. Halbouty, formerly with Yount-Lee Oil Company, and more recently chief geologist and chief petroleum engineer for Glenn H. McCarthy, Inc., Houston, will be geologist, petroleum engineer, vice president and general manager of the firm. Halbouty is known for his paleontological, petrographic, rotary mud and heaving shale work. In his new connection he will have his own laboratory to continue this research. Dearborn has been head of the land and lease department of Glenn H. McCarthy, Inc., and will occupy the same position with Merit Oil Company, Inc.

GEORGE M. SCHNEIDER of the 1936 graduating class in mining and petroleum engineering, Ohio State University, has been assigned to the Rodessa field as a roustabout in the employ of Phillips Petroleum Company.

J. F. McSWAIN, Los Angeles, manager of the asphalt department of Shell Oil Company, has been elected chairman of the Pacific Coast division of the Asphalt Institute. The institute is planning an extensive program of educational and technical work for the coming year, particularly in developing the use of asphalt for insulation, corrosion prevention, waterproofing and other industrial uses, McSwain said.

M. E. SCHWARZ is general superintendent and petroleum engineer for the newly created South Texas division of Seaboard Oil Corporation of Delaware, which has opened offices in the Medical-Professional Building, Corpus Christi. Lloyd West is the geologist; Harold Decker, field superintendent; E. H. Chiles, accountant; and H. N. Lyles, assistant. This company has control of the majority of the Chapman ranch of Nueces County, upon which the company has developed the Chapman Ranch field with two deep producing horizons. In addition, it is interested in several wildcat prospects in the area now being drilled.

TOM DAVEY has resigned his position with the Buckingham Oil Company at Corpus Christi and has moved to San Antonio to open offices in the Milam Building. Davey was for 15 years in the San Antonio district for Atlantic Refining Company interests.

C. M. BOGGS, Kanotex Refining Company, Arkansas City, Kansas, was re-elected president of the Western Petroleum Refiners Association at the annual meeting, held in Hot Springs, Arkansas, April 26 to 28. Vice presidents re-elected included: R. W. McDowell, Mid-Continent Petroleum Corporation, Tulsa; T. H. Barton, Lion Oil Refining Company, El Dorado, Arkansas; Roy B. Jones, Panhandle Refining Company, Wichita Falls, Texas; and H. T. Ashton, Lubrite Division, Socony-Vacuum Oil Company, St. Louis. The convention, at which over 200 members and visitors registered, was devoted to technical, economic and legislative trend studies.

HERBERT D. McCRACKEN, vice president of Illinois Pipe Line Company and superintendent of operations in East Texas and North Central Texas districts with headquarters at Fort Worth, retired from active duty May 1. He had been actively engaged in the construction and operation of pipe lines since 1892, except for military service during the Spanish-American War, and for the past 18 years has resided in Fort Worth.

He launched his career in the pipe line business as an oil dispatcher at Chicago for the Indiana Pipe Line Company. In 1903, he resigned to become construction foreman for Prairie Oil & Gas Company's crude trunk line project from Humboldt, Kansas, to Whiting, Indiana. He left the services of the latter concern in 1908 to take charge of the construction of Tuscarora Oil Company's (A. C. Bedford Interests) 375-mile trunk line from Ohio-Pennsylvania state line to Bayway, New Jersey, and was retained to supervise operations.

McCracken moved to Tuxpam, Mexico, in 1914, to become marine superintendent for Penn-Mex Fuel Company, which operated crude lines from the Alamo and Panuco fields to extensive storage and sea-loading terminals. He returned to the United States April 1, 1919, to complete the construction of United Producers Pipe Line Company's trunk line from Ranger district to Fort Worth, and remained in charge of operations as vice president. When the latter unit of Transcontinental Oil Company was absorbed by Ohio Oil Company, and the name changed to Illinois Pipe Line Company, McCracken was retained as an official.

Employes of the Illinois Pipe Line Company in East and North Central Texas honored their retiring chief on April 24 in Fort Worth with a banquet. McCracken was presented with a fishing outfit and gun, since he expects to devote his full time to the operation of a recently acquired farm and orchard on Eagle Mountain Lake, near Fort Worth.

R. N. MONTGOMERY, West Texas superintendent for Illinois Pipe Line Company with headquarters at Del Rio, has succeeded Herbert D. McCracken, retired, and will have the title of general superintendent of Texas operations.

E. V. O'ROUKE, associate professor of the department of mine engineering at Ohio State University, addressed the Foremen's Club of Wheeling Steel Corporation at Steubenville, Ohio, on April 21. His subject was "Use of Lap Welded Pipe in the Petroleum Industry."

STEPHEN B. SMITH, 57, vice president of the Pioneer Drilling Company, died in Tulsa April 23. Funeral services were conducted from St. Paul's Methodist church with interment in Oaklawn Cemetery.

HARRY NEWTH, 51, chief engineer for Illinois Oil Company at Mingus station, Texas, was found dead April 24. He had worked on the pipe line operated by the company between Ranger and Fort Worth since 1921.

HUGH H. TUCKER, 60, former physician and geologist, died April 24 at his home in Dallas. He is credited with having taken part in locating the first test in Big Lake field, West Texas.

Markets Are Strong

REFINED PRICE TENDENCY IS UPWARD AND CRUDE IS FIRM

THE oil industry's markets have continued to demonstrate strength, in the form of higher-trending refined oil prices and a firm crude market.

Tank car prices of gasoline since a week ago have improved one eighth cent a gallon generally throughout the Mid-Continent. In some instances, kerosine tank car prices also have advanced.

This favorable market situation is especially encouraging because it prevails at the beginning of the heavy gasoline consuming season.

Although the present tank car prices are only slightly better than at this time last year, the volume being sold is running over 10 percent higher, thus promoting better over-all profits.

Dealer and service station prices of gasoline, meanwhile, also are better than in recent weeks and above the level of a year ago.

The present strong markets for gasoline and other products furnish further justification for an early crude price increase, for which there has been much agitation in recent weeks.

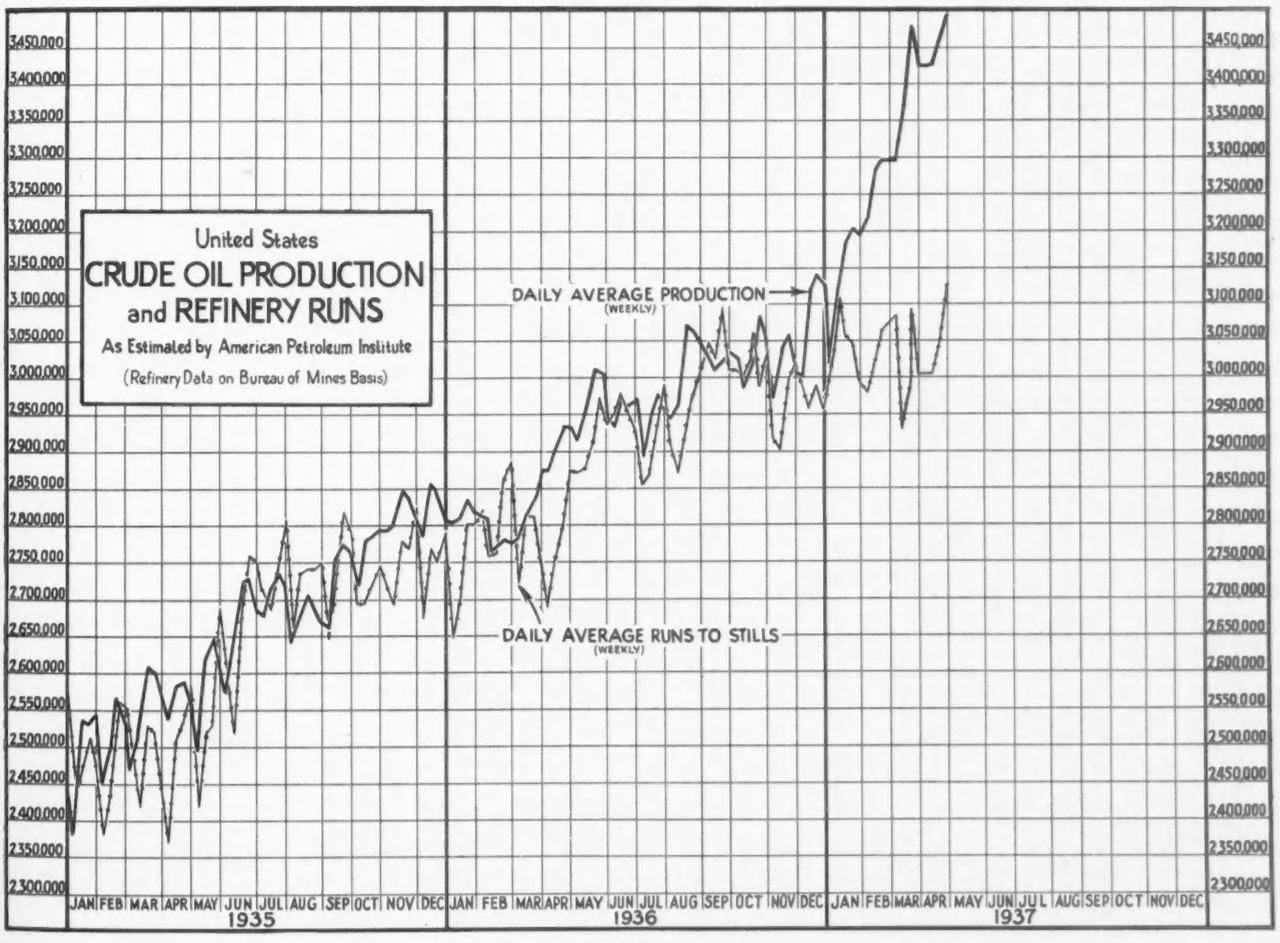
The crude market outlook is promising, moreover, because most of the leading producing states have prescribed comparatively strict production allowables for May. The allowables of April, similarly, were relatively strict, and brought about a better balance between production and demand than in the several preceding months, when output was excessive and caused additions to crude storage.

Executives Discuss Situation

Last week brought another public statement from a large-company executive on the prospects for a crude price increase, when T. Rieber, chairman of the board of The Texas Corporation, told stockholders in annual meeting that there should be no increase in the price of crude oil as stocks are today, but that there might be an advance later in the year if producers will cut production. He stated gasoline stocks are high but not dangerously so.

A similar viewpoint was taken some time ago by Edward G. Seubert, president of Standard Oil Company (Indiana), who cautioned against overproduction of crude and excessive inventories of gasoline, factors that have entered the oil picture in recent months.

John M. Lovejoy, president of Seaboard Oil Company, expressed to stockholders of the company, in annual meeting recently, the opinion that slightly higher prices for crude oil may materialize when the heavy consumption season gets into full swing. "It is reasonable to assume," said he, "that we shall go through the year with as high a price as we have today. It is my feeling that if the industry were not producing



quite as much oil, we would have a higher price right now."

Clyde M. Boggs, president of the Western Petroleum Refiners' Association, last week in a meeting of the organization at Hot Springs, Arkansas, said that the future of gasoline prices depends entirely upon the crude market. Costs of refining have gone up 30 percent in the past two years, he said, while gasoline prices have shown but negligible increase.

Statistics Satisfactory

The latest available statistics have been generally satisfactory. Although crude oil production has been soaring further to all-time high levels, the output has been well absorbed at the refineries, with the plant operations similarly at all-time record levels. Moreover, the high rates of plant activity have been largely justified, as market demand for the refined oils has continued to run at unprecedented proportions. The latest weekly report of the American Petroleum Institute on gasoline inventories showed that the total stocks of finished and unfinished gasoline in the United States were reduced to the extent of 400,000 barrels, in the week ended April 24.

CRUDE PRICES

Complete table of prices paid for crude oil at the well in principal fields will be found on page 134. Hereafter this schedule will appear only in the first issue of each month except when changes are announced.

Gasoline Prices Up

The one-eighth cent a gallon improvement in gasoline tank car prices in the Mid-Continent last week extended throughout most districts, including Oklahoma, East Texas, and the Chicago area.

U. S. motor gasoline f.o.b. Oklahoma refineries moved within a new range of 5⅛ to 5¼ cents a gallon for the 62 and below octane, 5½ cents for the 63-67 octane, and 6⅛ to 6¼ cents for the 68 to 70 octane.

Corresponding gasoline tank car prices in the Chicago market were 5⅛ to 5¼ cents, 5⅜ to 5½ cents, and 5⅞ to 6⅛ cents.

At East Texas refineries the usual 60-62, 400 end point gasoline of the market was priced from 5¼ to 5⅜ cents a gallon, the top price being one eighth cent higher than a week before.

Standard Oil Company of Ohio, effective April 29, advanced tank wagon prices of all grades of gasoline ½ cent a gallon generally throughout Ohio. At the same time the company put into effect a ½-cent advance in service station prices at points where it posts such prices. This was the first general change of prices made by the company since March 15.

Including state and federal taxes, the new prices at the service stations in Ohio are 18 cents a gallon for third grade and 19½ cents for the regular grade.

Kerosine Prices Same

Demand for kerosine was steady, and prices were about unchanged. In the Oklahoma market the tank car prices f.o.b. refineries ranged from 4¼ to 4⅜ cents a gallon for the 41-43 water white grade, and from 4⅜ to 4½ cents for the 42-44 water white grade.

Corresponding kerosine prices in the Chicago market were: 4⅛ to 4¼ cents and 4¼ to 4⅜ cents.

Weekly Trends of United States Production and Stocks

(Figures American Petroleum Institute, except crude stocks, Bureau of Mines)

WEEK ENDED—	Crude Oil Production (Barrels Daily)	Crude Runs to Stills (Barrels Daily)	Crude Oil Stocks (Barrels)	Gasoline Stocks (Barrels)	Gas & Fuel Oil Stocks (Barrels)
January 2, 1937	3,121,400	3,030,000	287,659,000	62,661,000	106,330,000
January 9	3,117,800	3,110,000	286,912,000	65,402,000	105,971,000
January 16	3,184,650	3,045,000	286,044,000	66,559,000	104,841,000
January 23	3,205,150	3,055,000	285,211,000	68,180,000	103,441,000
January 30	3,194,050	2,995,000	285,384,000	69,540,000	102,078,000
February 6	3,220,750	2,980,000	286,116,000	70,535,000	101,136,000
February 13	3,286,050	3,020,000	286,158,000	73,585,000	100,735,000
February 20	3,295,950	3,065,000	287,574,000	74,798,000	99,391,000
February 27	3,296,100	3,085,000	288,121,000	78,786,000	99,534,000
March 6	3,298,800	2,930,000	289,611,000	80,102,000	99,115,000
March 13	3,372,850	2,985,000	290,613,000	81,236,000	98,964,000
March 20	3,448,150	3,095,000	291,555,000	81,623,000	97,287,000
March 27	3,431,300	3,060,000	293,587,000	*83,538,000	96,591,000
April 3	3,422,350	3,005,000	297,374,000	83,157,000	95,805,000
April 10	3,426,300	3,005,000	297,468,000	82,579,000	94,581,000
April 17	3,463,550	3,055,000	.....	82,703,000	94,472,000
April 24, 1937	*3,496,400	*3,125,000	.....	82,303,000	94,100,000
April 25, 1936	2,932,700	2,875,000	313,132,000	72,537,000	96,802,000

*All-time peak.

Summary of Wells Completed in the United States
Week Ending May 1, 1937

	Completions	Oil Wells	Gas Wells	Failures	Initial Production	Total, 1937	Total this Date, 1936
Alabama	....	....	....	....	.....	1	2
Arkansas	....	....	....	....	.....	26	30
California	20	18	....	2	6,690	418	305
Colorado	....	....	....	....	.....	6	5
Florida	....	....	....	....	.....	....	.....
Illinois	....	....	....	....	.....	20	4
Indiana	5	2	....	3	9	44	87
Kansas	46	33	2	11	45,899	750	498
Kentucky	4	1	....	3	100	61	77
Louisiana	20	13	3	4	5,062	232	329
Michigan	16	7	....	9	5,382	259	228
Mississippi	....	....	....	....	.....	6	1
Montana	6	5	....	1	267	32	31
Nebraska	....	....	....	....	.....	....	.....
New Mexico	13	13	....	....	43,230	226	162
New York	....	....	....	....	.....	3	.....
Ohio	14	9	2	3	133	508	665
Oklahoma	63	49	2	12	46,669	981	882
Pennsylvania	2	....	2	....	.....	55	.....
Texas	295	226	9	60	368,695	4,702	3,954
Utah	....	....	....	....	.....	....	.....
West Virginia	21	3	13	5	14	284	232
Wyoming	....	....	....	....	.....	34	16
Total this week	525	379	33	113	522,150	8,648	7,507
Total last week	591	406	42	143	418,975	....	.....
Total this year	8,648	5,870	747	2,031	7,426,533	....	.....

Tulsa.—An elaborate construction program, to facilitate handling of oil from the Mid-Continent, has been announced by the Great Lakes Pipe Line Company through officials in Tulsa and in Kansas City, Missouri. Work on the lines will be started at once, and will consist of 100 miles of 4-inch line between Osceola, Iowa, and Omaha, Nebraska, being replaced with 6-inch line. The 8-inch line, at present carrying production from Barnsdall, Oklahoma, to Kansas City, Missouri, will be paralleled with another 8-inch line, and a 6-inch loop will be laid between Des Moines, Iowa, and St. Paul and Minneapolis.

Austin.—A hearing on the Agua Dulce field, Nueces County, is to be held before the Texas Railroad Commission at Austin on May 7.

The commission is seeking evidence relating to a casing program for deep producers in this field.

Comparison of Permits Granted for New Wells

STATE	Week Ending May 1	Total this Mo.	Total this Year	Total this Date Last Year	1936 Year Total
Arkansas	3	3	59	31	103
California	35	35	489	291	1,054
Louisiana	41	41	333	404	1,107
Kansas	70	70	828	576	1,873
Michigan	29	29	311	20	762
Oklahoma	74	74	96	1,	2,594
Texas	265	265	5,801	4,40	1,582
Total	517	517	8,783	6,947	23,075

Production Up

SLIGHT GAIN KEEPS U. S. NEAR ALL-TIME RECORD

UNITED STATES crude oil production continued last week around the record levels that prevailed in the previous week. For the new period, ended May 1, the wells of the nation had an average daily output of 3,484,175 barrels daily. That was 2325 barrels a day more than in the previous week, and 241,175 barrels a day more than the Bureau of Mines recommendation.

Production was slightly higher last week than in the previous week in Texas, Kansas and Louisiana, but lower in Oklahoma, California, and New Mexico.

Texas last week averaged 1,382,800 barrels daily, which was 10,500 barrels a day more than in the previous week and 85,000 barrels a day more than the Bureau of Mines recommendation for average daily output in the state in April.

Kansas Increases

Kansas output was up 425 barrels at 198,350 barrels daily, which was 15,350 barrels a day more than the federal allocation.

Louisiana last week averaged 250,550 barrels a day. That was 1650 barrels a day more than in the preceding week and 5750 barrels a day more than the federal bureau's suggestion.

Oklahoma production last week averaged 665,600 barrels a day, falling 5050 barrels under the previous week's level, but being 56,000 barrels a day above the Bureau of Mines estimate of requirements.

California last week produced at the average rate of 620,000 barrels daily, which was 8,000 barrels a day less than in the previous week, but 40,100 barrels a day more than the Bureau of Mines recommendation.

New Mexico output was down 400 barrels to 105 800 barrels a day, but exceeded the Bureau of Mines recommendation 14,400 barrels daily.

Gasoline Plants

San Antonio.—Plans for construction of a new natural gasoline plant and enlargement of another in South Texas oil fields was announced during the week. One will be for the La Blanca deep field in Hidalgo County, while the other project will be in the Saxet field of Nueces County.

Southern Minerals Corporation of Corpus Christi has awarded contract to Western Supply Company, for the installation of additional equipment to the company's plant in the Saxet area, the contract being on a turn-key basis. The new unit will include a duplication of the present absorber group, additional storage, 255-ton refrigerating system and a propane-butane recovery unit. With the additional equipment the company proposes to process 35,000,000 cubic feet of gas daily. The additional gas volume will be taken from the deeper zones, namely the 6300-, 6700-, and 6900-foot sands. The present plant, one half the size of the new project, processes gas from the 5800-foot wells.

The Clymore Company of San Antonio has made a survey of the La Blanca field of eastern Hidalgo County with the intention of building a similar type plant in that field. It would process gas from the 7800-foot sand, which has two producing wells at this time. Several other deep Frio sands have been tested and are considered to be productive with rich gas. The project is in its preliminary stage at this time, hence no details are available.

United States Crude Oil Production

Estimates Compiled by The OIL WEEKLY

DISTRICT OR STATE	Bureau of Mines Recommendation (Daily in April)	ACTUAL PRODUCTION: BARRELS DAILY FOR WEEK ENDING May	April 24
TEXAS—			
Texas Panhandle	.....	76,400	74,800
North Texas	.....	70,500	70,600
West Central Texas	.....	32,800	33,100
West Texas	.....	199,400	198,700
East Central Texas	.....	114,800	116,700
East Texas Field	.....	459,100	458,500
South Texas	.....	227,600	223,200
Texas Gulf Coast	.....	202,300	196,800
Total Texas	1,297,900	1,382,900	1,372,400
OKLAHOMA—			
Oklahoma City	.....	174,525	172,400
Seminole Area	.....	131,750	132,000
Crescent	.....	14,825	15,925
Lucien	.....	14,500	13,650
Fitts	.....	96,500	98,900
Edmund	.....	19,000	22,700
Moore	.....	15,825	15,800
Others	.....	198,675	199,275
Total Oklahoma	609,600	665,600	670,650
KANSAS—			
Ritz-Canton	.....	5,550	5,500
Chase	.....	10,425	8,875
Hollow-Nikkel	.....	3,750	3,700
Sedgwick	.....	3,925	3,857
Burrton	.....	16,350	15,857
Lorraine	.....	6,475	5,475
Russell County	.....	29,075	30,200
Silica	.....	21,025	21,450
Others	.....	101,775	102,975
Total Kansas	183,000	198,350	197,925
LOUISIANA—			
North Louisiana	.....	73,350	70,500
South Louisiana	.....	177,200	178,400
Total Louisiana	244,800	250,550	248,900
ARKANSAS	27,400	27,075	27,175
CALIFORNIA—			
Long Beach	.....	61,000	61,000
Santa Fe Springs	.....	44,000	44,500
Huntington Beach	.....	38,000	38,000
Dominguez	.....	22,000	24,000
Inglewood	.....	13,500	15,000
Ventura Avenue	.....	35,000	38,000
Seal Beach	.....	9,000	9,000
Midway-Sunset	.....	66,000	71,000
Elwood	.....	9,500	9,500
Kettleman Hills	.....	80,000	76,000
Mountain View	.....	20,500	20,500
Playa del Rey	.....	9,000	9,000
Others	.....	212,500	212,500
Total California	579,900	620,000	628,000
MOUNTAIN STATES—			
Wyoming	44,000	53,200	53,600
Montana	14,600	16,300	15,700
Colorado	4,800	4,400	4,200
Total Rocky Mountain States	63,400	73,900	73,500
NEW MEXICO	91,400	105,800	106,200
EASTERN STATES	115,000	114,800	115,300
MICHIGAN	30,600	45,200	41,800
Total United States	3,243,000	3,484,175	3,481,850

CRUDE OIL PRICE SCHEDULES*

(Figures Revised to April 30, 1937)

MID-CONTINENT GRAVITY SCALE PRICES (Posted January 28, 1937)

(Some fields of Mid-Continent have flat price postings, and are shown separately.)

Gravity	Okla.-Kans.	North La.-Ark.	Rodessa, La.-Tex.	North & W. Cent. Tex.	East Cent. Tex.	Gray Co. Tex.	Carson Hutchinson Co. Tex.	[1]Conroe, Tex. Type	West Tex.-N. Mex.	[2]Gulf Coast (Tex.-La.)	[3]Some La. Gulf Areas	[4]Anahuac, Tex. Type	[5]Refugio, Tex. Type	[6]Mirando, Tex. Type
17–17.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	*$0.90	.....	.....	.....	.....
18–18.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.92	.....	.....	.....	.....
19–19.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.94	.....	.....	.....	.....
20–20.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.96	*$0.90	.....	*$0.95	*$0.90
21–21.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.98	.93	.....	.98	.93
22–22.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.01	.96	.....	1.01	.96
23–23.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.04	.99	.....	1.04	.99
24–24.9	*$0.98	*$0.90	*$0.93	*$0.88	.....	.....	.....	.....	.....	1.07	1.02	.....	1.07	1.02
25–25.9	1.00	.92	95	.90	.....	.....	.....	.....	*$0.78	1.10	1.05	.....	1.10	1.05
26–26.9	1.02	.94	.97	.92	.....	.....	.....	.....	.80	1.13	1.08	.....	1.13	1.08
27–27.9	1.04	.96	.99	.94	.....	.....	.....	.....	.82	1.15	1.10	.....	1.15	1.10
28–28.9	1.06	.98	1.01	.96	*$1.03	.....	.....	*$1.20	.84	1.17	1.12	.....	1.17	1.12
29–29.9	1.08	1.00	1.03	.98	1.05	.....	.....	1.22	.86	1.19	1.14	.....	1.19	1.14
30–30.9	1.10	1.02	1.05	1.00	1.07	.....	.....	1.24	.88	1.21	1.16	$1.16	1.21	1.16
31–31.9	1.12	1.04	1.07	1.02	1.09	.....	.....	1.26	.90	1.23	1.18	1.18	1.23	1.18
32–32.9	1.14	1.06	1.09	1.04	1.11	.....	.....	1.28	.92	1.25	1.20	1.20	1.25	1.20
33–33.9	1.16	1.08	1.11	1.06	1.13	.....	.....	1.30	.94	1.27	1.22	1.22	1.27	1.22
34–34.9	1.18	1.10	1.13	1.08	1.15	*$0.96	*$0.91	1.32	.96	1.29	1.24	1.24	1.29	1.24
35–35.9	1.20	1.12	1.15	1.10	1.17	.98	.93	1.34	.98	1.31	1.26	1.26	1.31	1.26
36–36.9	1.22	1.14	1.17	1.12	1.19	1.00	.95	1.36	1.00	1.33	1.28	1.28	1.33	1.28
37–37.9	1.24	1.16	1.19	1.14	1.21	1.02	.97	1.38	1.02	1.35	1.30	1.30	1.35	1.30
38–38.9	1.26	1.18	1.21	1.16	1.23	1.04	.99	1.40	1.04	1.37	1.32	1.32	1.37	1.32
39–39.9	1.28	1.20	1.23	1.18	1.25	1.06	1.01	1.42	1.06	1.39	1.34	1.34	1.39	1.34
40 & Above	1.30	1.22	1.25	1.20	1.27	1.08	1.03	1.44	1.08	1.41	1.36	1.36	1.41	1.36

* Minimum price and applies also to purchases of lower gravity.

[1] Conroe, Tomball, Satsuma, Raccoon Bend Deep fields.

[2] Upper Texas Gulf Coast, including Goose Creek, Spindle Top, etc., and some fields of Louisiana Gulf Coast, including Black Bayou, White Castle, Vinton, Hackberry, etc.

[3] Choctaw, Darrow, Lockport, Iowa (Magnolia posting), Cameron Meadows, etc.

[4] Anahuac, Dickinson, Flour Bluff, Turtle Bay.

[5] Lower Texas Gulf Coast, including Refugio, Saxet, etc.

[6] Duval, Jim Hogg, Webb, and Zapata Counties; Heyser, Placedo fields.

Mid-Continent Flat Prices

	Flat Price	Date Posted
Arkansas:		
Smackover	$0.90	1–28–37
Louisiana:		
Garden Island	1.37	1–28–37
Lafitte	1.24	1–28–37
Texas:		
East Texas	1.27	1–28–37
Talco	.73	1–28–37
Livingston, Cleveland	1.27	1–28–37
Hardin	1.15	1–28–37
Van	1.10	1–28–37
Pettus	1.37	1–28–37
Pecos County	.91	1–28–37
Pecos Shallow	.81	1–28–37
Luling	1.00	1–28–37
Lytton Springs	1.12	1–28–37
Salt Flat, Darst Creek, Hilbig, Carroll, Clark, Zoboroski	1.09	1–28–37

Michigan Prices

Central Michigan	$1.42	1–29–37

Middle West Prices

Lima	$1.25	1–28–37
Illinois	1.35	1–28–37
Princeton	1.35	1–28–37
Western Kentucky	1.40	1–28–37

Rocky Mountain States Prices

	Flat Price	Date Posted
Elk Basin	$1.30	1–28–37
Frannie Light	.70	11– 4–36
Frannie Heavy	.62	11– 4–36
Grass Creek Light	1.30	1–28–37
Grass Creek Heavy	.62	11– 4–36
Hamilton Dome	.57	11– 4–36
Big Muddy	1.23	1–28–37
Rock Creek	1.20½	1–28–37
Sunburst	1.20	1–28–37
Lance Creek	.97	1–28–37
Osage	1.08	.....
Cat Creek	1.07	8–25–33
Cut Bank	1.35	6– 3–36
Pondera	1.05	9–29–33
Hogback	1.00	9– 8–33

Pennsylvania Prices

Bradford-National Transit	$2.67	2–24–37
Sw. Pa. Pipe Line	2.42	2–24–37
Eureka Pipe Line	2.37	2–24–37
Buckeye Pipe Line	2.22	2–24–37
Corning Grade	1.32	12–18–36

Canada Prices

Petrolia	$2.10	9– 9–33
Oil Springs	2.17	9– 9–33

Mexico Prices

F.O.B. Tampico; net; U.S. Currency, buyer pays tax	$1.24	.....

Major Price Changes

	Penna. Nat. Tr.)	Mid.-Cont. (36 Gr.)	Calif. (26 Gr.)
June 19, 1933	Up 10	Up 19	.....
June 26, 1933	Up 10	.....	Up 9-12
July 6, 1933	Up 13	Up 10	.....
July 17, 1933	Up 15	.....	.....
July 28, 1933	Up 15	.....	.....
August 11, 1933	Up 10	.....	.....
August 24, 1933	.....	Up 10	.....
August 30, 1933	Up 15	.....	.....
September 6, 1933	Up 10	Up 10	Up 15
September 8, 1933	.....	Up 15	.....
May 1, 1934	Up 10	.....	.....
November 6, 1934	Cut 25	.....	.....
December 6, 1934	Cut 25	.....	.....
January 4, 1935	Up 15	.....	.....
February 4, 1935	Up 15	.....	.....
May 16, 1935	Cut 15	.....	.....
June 26, 1935	Cut 15	.....	.....
July 16, 1935	Cut 10	.....	.....
August 29, 1935	.....	.....	Cut *4
September 6, 1935	Up 5	.....	.....
October 29, 1935	Up 15	.....	.....
November 1, 1935	.....	.....	Up *28
November 18, 1935	Up 15	.....	.....
December 6, 1935	.....	.....	Up *9
January 9, 1936	.....	Up 10	.....
January 13, 1936	Up 15	.....	.....
February 26, 1936	.....	.....	Up †5
December 28, 1936	Up 12	.....	.....
January 28, 1937	.....	Up 12	.....
February 24, 1937	Up 10	.....	.....

* Signal Hill 26 gravity. † Seal Beach 26 gravity.

Crude Production Taxes

Oklahoma—Five percent of gross value less royalty interest.

Texas—2¾ cents or 2¾ percent, whichever is higher.

Louisiana—From four to 11 cents a barrel, depending upon gravity.

Arkansas—2.6 percent of gross market values.

Montana—Two percent of gross value at well and ⅜ of 1c per barrel.

New Mexico—Severance tax of 2 percent on oil and gas.

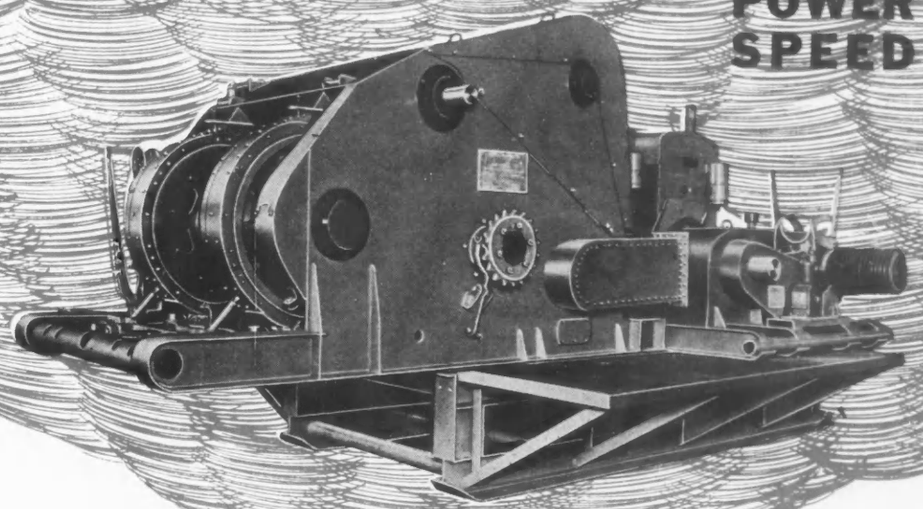
Wyoming and New Mexico—Production tax based upon state and county assessments.

California—.66443 mills per barrel of oil produced and 17.39 cents per acre on proved oil lands.

*See California Prices Page 136.

BEATING A KANSAS CYCLONE

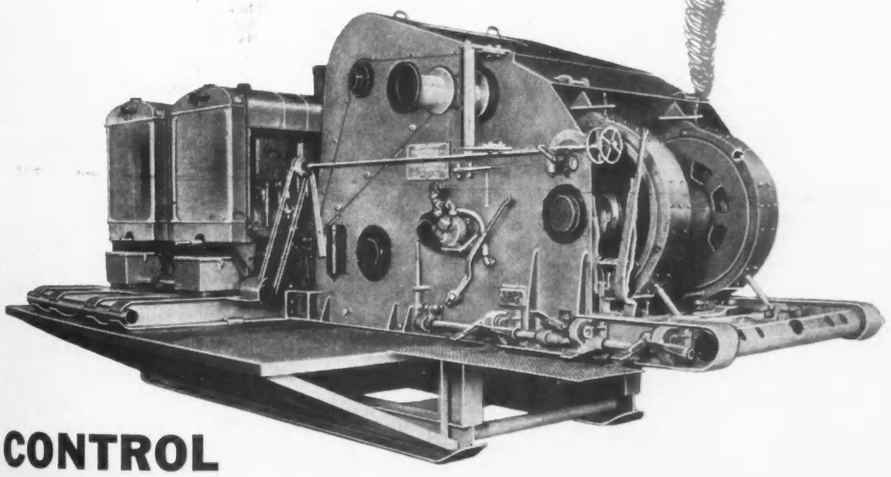
POWER
SPEED



A CYCLONE HAS POWER—SPEED—NO CONTROL

The R-876-8 PORTABLE RIG has POWER, SPEED, and CENTRALIZED CONTROL

Completely Enclosed in Dust-Proof Case—Positive Force Feed Lubrication —Eight Speeds Forward; Six Reverse; With or Without Sand Reel.



CONTROL

A FEW OF THE MANY FEATURES OF THIS 6000' PORTABLE RIG

Eight speeds forward, six speeds reverse on drum, rotary shaft and sand reel. Roller bearing equipped throughout. Enclosed sand reel (optional). Self-energizing brakes are water-cooled by circulation in shoes attached to bands. Double compound leverage gives 90% brake area contact. Dual drive (gasoline, natural gas or Diesel fuel engines) which can be compounded into draw works or pumps. Air controlled engine clutches. Air compressor supplied with rig. Pump is provided to furnish force-feed lubrication to all chains, bearings, sprockets and shafts. Heavy-duty friction-clutches on drum and rotary shafts. Substructure, allowing either one or two pumps to be set on ground level, fits any height derrick and provides walkway around entire rig.

Complete specifications will be sent upon request. ASK FOR BULLETIN 38.

PORTABLE RIG CO. INC.

POWER PORTABLE RIG CO. ECONOMY

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HOUSTON, TEXAS

BRANCHES—DALLAS, LONGVIEW CORPUS CHRISTI and TULSA

EXCLUSIVE PACIFIC COAST DISTRIBUTORS WAGNER-MOREHOUSE, INC., LOS ANGELES, CALIFORNIA

IN THE

Financial Field

Oil companies show improvement in earnings comparable with other industries.

* * *

First quarter reports show earnings are 50 percent higher than last year.

* * *

Socony-Vacuum Oil Company report reveals increased earnings through volume in 1936.

THE improvement in earnings of oil companies for the first quarter of 1937 over that period last year has been well in line with the gains shown by industry in general.

For the first 100 companies in all industries to report on operations in the first three months of this year, the aggregate net profit was approximately 50 percent higher than in the corresponding period last year.

Individual oil companies have reported, as usual, rather widely varying results, and different percentages of increase in earnings over last year. The increases in profits have varied from slight gains to improvement of over 100 percent.

Shell Union Oil

Shell Union Oil Corporation for the initial quarter of 1937 experienced an increase of over 100 percent in earnings compared with the similar period last year. The net income for the first three months this year was $3,674,479, compared with $1,681,984 in the first quarter of 1936. In the first three months of 1935 the company reported a loss of $1,121,040. The decided improvement this year over last year reflects a sharp gain in sales volume, as well as somewhat higher prices.

Texas Pacific Coal & Oil Company

The Texas Pacific Coal & Oil Company for the first quarter of 1937 reported profit of $220,550, after taxes, depreciation, depletion, etc. This compares with profit of $136,500 in the similar period last year, and with a loss of $55,806 in the first quarter of 1935.

Tide Water Associated Oil Company

Tide Water Associated Oil Company reports for the first quarter of 1937 net income of $3,328,303, after interest, depreciation, depletion, federal income taxes, etc. This compares with net income of $2,707,703 for the comparable period last year.

Tide Water Associated Oil Company has declared a dividend of 20 cents a share on the common stock, payable June 1, compared with 15 cents a share paid on March 1. This increase in the dividends reflects improved earnings and the fact the fixed charges of the company have been reduced through refinancing early this year.

Derby Oil & Refining

Derby Oil & Refining Corporation and subsidiaries for the first 3 months this year reported profit of $140,584, after taxes, depreciation, depletion, etc., but before federal income tax. This

CALIFORNIA CRUDE OIL PRICES (Posted February 26, 1936).

(All gravities above those quoted take highest prices of that field.)

Gravity	Signal Hill	Seal Beach Alamitos Heights	Huntington Beach	Inglewood	Playa Del Rey	Olinda Brea Canyon	Athens Rosecrans	Elwood Terrace	Torrance	Richfield	Whittier East Coyote La Habra	Montebello	West Coyote Hills	Santa Fe Springs	New Hall McKittrick Kern River Round Mountain	Mountain View	Midway-Sunset Buena Vista Hills Elk Hills	Lost Hills	Coalinga	Wheeler Ridge
14-14.9	$.80	$.79	$.78	$.79	$.80	$.76	....	....	$.80	$.76	$.76	$.77	$.78	.....	$.70	....	$.70	$.70	$.70	....
15-15.9	.80	.79	.78	.79	.80	.76	....	....	.80	.76	.76	.77	.78	.....	.70	....	.70	.70	.70	....
16-16.9	.80	.79	.78	.79	.80	.76	....	....	.80	.76	.76	.77	.78	.....	.70	....	.70	.70	.70	....
17-17.9	.80	.79	.78	.81	.80	.76	....	....	.80	.76	.76	.77	.78	.....	.70	....	.70	.70	.70	....
18-18.9	.80	.79	.78	.84	.80	.78	....	....	.82	.76	.76	.77	.78	.....	.70	....	.70	.70	.70	....
19-19.9	.82	.79	.82	.87	.84	.81	....	....	.85	.76	.78	.77	.78	.....	.70	$.70	.74	.74	.71	$.70
20-20.9	.85	.79	.85	.90	.88	.84	....	....	.88	.78	.82	.77	.80	.....	.....	.70	.78	.78	.72	.70
21-21.9	.88	.79	.89	.93	.93	.88	....	....	.91	.80	.85	.77	.84	$.78	.....	.73	.82	.82	.74	.70
22-22.9	.92	.82	.92	.96	.98	.92	....	....	.93	.84	.89	.79	.88	.78	.....	.77	.87	.86	.78	.72
23-23.9	.95	.86	.96	.99	1.02	.96	$.84	....	.96	.88	.93	.82	.92	.78	.....	.80	.92	.90	.82	.76
24-24.9	.99	.91	1.00	1.02	1.06	.99	.88	.....	.99	.91	.96	.85	.96	.82	.....	.84	.97	.94	.86	.79
25-25.9	1.03	.95	1.03	1.05	1.11	1.03	.93	.....	1.02	.95	....	.89	.99	.86	.....	.88	1.01	.98	.90	.83
26-26.9	1.06	1.00	1.07	1.09	1.16	1.06	.98	.....	1.05	.98	....	.92	1.03	.90	.....	.91	1.06	1.02	....	....
27-27.9	1.10	1.05	1.11	1.12	....	1.10	1.03	....	....	1.02	....	.96	1.06	.95	.....	.95	1.10	1.06	....	....
28-28.9	1.14	1.10	1.14	1.15	....	1.14	1.07	....	....	1.06	....	.99	1.10	.99	.....	.99	1.15	1.10	....	....
9-29.9	1.17	1.15	1.18	1.18	F.O.B.	1.17	1.12	....	....	1.09	....	1.03	1.14	1.03	.....	1.02	1.29	1.14	....	....
-30.9	1.21	1.19	1.22	1.21	Pipe	1.21	1.17	F.O.B.	....	....	....	1.07	1.17	1.08	.....	1.06	1.25	1.18	....	....
-31.9	....	.....	....	1.24	Line	1.24	1.22	Ship	Kettleman Hills 1.19			1.11	1.21	1.12	.....	1.09	1.29	....	....	....
-32.9	....	.....	....	1.27	....	1.27	1.27	....				1.14	1.25	1.16	.....	1.13	1.34	....	....	....
-33.9	....	.....	....	....	....	....	1.32	$1.28				1.18	1.28	1.20	.....	1.17	1.38	....	....	....
34-34.9	....	.....	....	....	....	....	1.37	1.32	....	1.23	....	1.22	1.32	1.25	.....	1.20	.....	....	....	....
35-35.9	....	.....	....	....	....	....	1.42	1.35	....	1.27	....	1.25	....	1.29	.....	....	.....	....	....	....
36-36.9	....	.....	....	....	....	....	1.46	1.39	....	1.31	....	1.29	....	1.33	.....	....	.....	....	....	....
37-37.9	....	.....	....	....	....	....	1.51	1.43	....	1.35	....	1.32	....	1.37	.....	....	.....	....	....	....
38-38.9	....	.....	....	....	....	....	1.56	....	....	1.39	....	1.36	....	1.42	.....	....	.....	....	....	....
39-39.9	....	.....	....	....	....	....	1.61	....	....	1.43	....	1.40	....	.....	.....	....	.....	....	....	....
40-40.9	....	.....	....	....	....	....	1.66	....	....	....	....	1.43	....	.....	.....	....	.....	....	....	....

compares with profit of $38,426 in the similar period last year.

Sunray Oil Corporation

Sunray Oil Corporation has reported for the first three months of 1937 a net income of $274,846, after deductions, including interest, depletion, depreciation and taxes.

Texas Gulf Producing Company is expected to show better earnings this year than last year for the first quarter, because of larger crude production, and somewhat better prices. In the first three months of 1936, the company showed a profit of $217,110. The company for all of 1936 reported net income of $823,410, compared with $798,181 the previous year.

Paraffine Companies, Inc.

Paraffine Companies, Incorporated, and subsidiaries have reported for the initial quarter of 1937 net profit of $541,722, after usual deductions, compared with $381,551 in the similar period last year.

Eason Oil Company reported for the quarter ended March 31, 1937, a net profit of $39,323, after usual deductions. This was equivalent, after preferred dividend requirements, to 12 cents a share on the outstanding common stock.

Mid-Continent Petroleum

Mid-Continent Petroleum Corporation is expected to show for the first quarter of this year an increase of about 20 percent in net profits, as compared with those for that period last year. In the first three months of 1936, the company reported net income of $942,659, after charges.

Mid-Continent Petroleum Corporation and subsidiaries for the whole year 1936 reported net income of $4,777,578, after federal and state taxes, depreciation, depletion, etc., compared with $2,417,175 for 1935, and compared with $828,093 for 1934.

The sharp improvement of Mid-Continent Petroleum's earnings in 1936, representing a gain of about 100 percent, was due partially to a large gain in crude production, as well as to better crude prices. The company in 1936 had net crude production of 5,695,959 barrels, compared with 4,341,450 barrels in 1935. In both years the company's production was restricted through proration.

Socony-Vacuum Oil Company

Socony-Vacuum Oil Company, Incorporated, in its lately issued annual report covering 1936 showed net earnings of $42,908,363. or $1.38 a share, compared with $22,525,892, or 72 cents a share in 1935. The company paid out dividends of $21,805,123 in 1936, compared with $9,345,442 the previous year.

The improvement in Socony's earnings last year resulted from increased volume of business, as well as better prices. The company in 1936 had gross crude oil production in the United States of 48,293,362 barrels, or 9 percent more than in the previous year. The gross production abroad, including half of that of 50 percent owned company, showed about a similar increase and totaled over 11,000,000 barrels. The

Your Production Problems In Which We Specialize

One is to save your falling tubing without injury to your casing.

The giant slips of the Kibele Catcher grip without distorting, but permit easy passage down the well.

Another specialty we offer is to swab your wells speedily, effectively, running down in record time and coming up with a full load.

Kibele 2½" Tubing Swab

2-Step Kibele Tubing Catcher
(Patents Pending)

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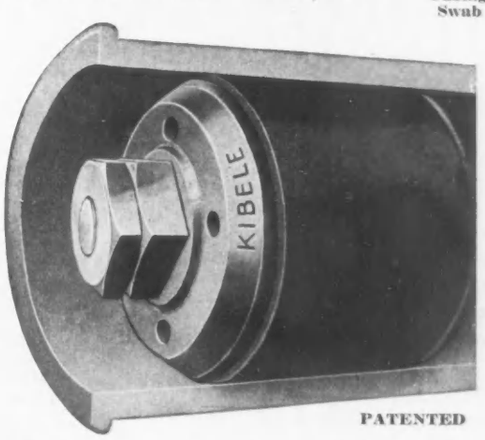

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KIBELE'S PISTON
Takes Them All in Stride

RODESSA, LA.	Boiler pressures up to 400 lbs.
WEST TEXAS AND NEW MEXICO	Sand, Alkali, Gyp in the water.
KANSAS AND OKLAHOMA	Picking up Salt and Sulphur Water for Disposal.
SOUTHWEST TEXAS AND GULF COAST	Pressures, Sand, Salt Water.

This is what Kibele Pistons meet in Pumps *around the world*, for Boiler Feed — Water Stations — Core Drills.

Fit any rod, any liner—Specially Selected Rubber

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Pronounced "Kib-ley"

YOU CATCH

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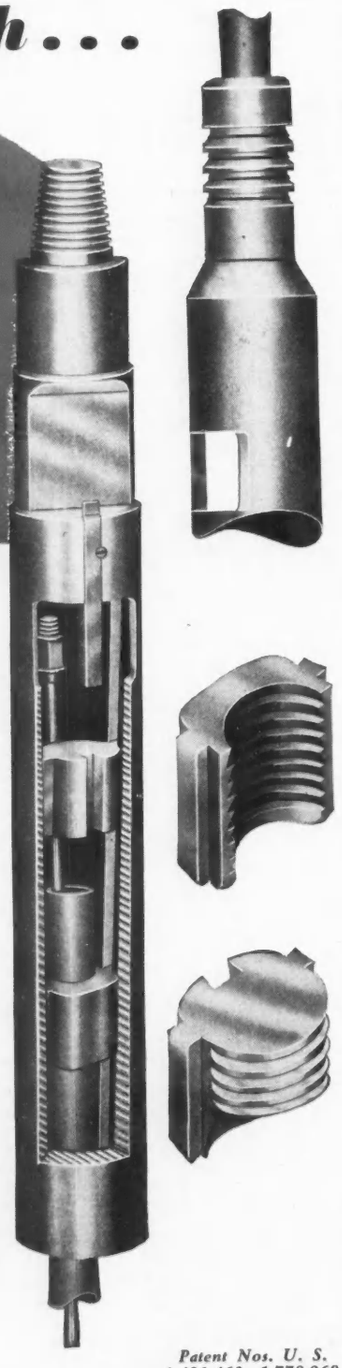
EUREKA

CLULOW TUBING SOCKETS



The Eureka Clulow Tubing Socket will catch any size tubing or rods from the bore of the socket down to the merest sliver of tubing, depending upon the thickness or type of slip used. And it will do it in less time at a lower cost!

RENT

. . . or buy a Clulow Tubing Socket at any of our branch shops listed below.

Write or Call

Patent Nos. U. S. 1,491,463, 1,778,968 also foreign patents.

EUREKA TOOL CO.

OKLAHOMA CITY, OKLAHOMA

Drumright, Oklahoma
Seminole, Oklahoma
Fittstown, Oklahoma
Gladewater, Texas
Ranger, Texas
Augusta, Kansas

company in 1936 ran to stills, at home and abroad, an average of 265,279 barrels of crude oil daily, or 10 percent more than in 1935.

United Gas System

The lately issued annual report of United Gas Public Service Company and subsidiaries (United Gas System) showed consolidated net income of $9,770,718, after interest, depletion, minority interest, etc. This compares with consolidated net income of $3,861,969 in the previous year.

The active subsidiaries of the company include: United Production Corporation, United Pipe Line Company, Southern Gas & Fuel Company, Northern Texas Utilities Company, Southern Gas Utilities, Inc., Compania Mexicana de Gas, S.A., Houston Gulf Gas Company, and the latter's subsidiary, Houston Gas & Fuel Company.

Natural gas operating revenues of the United Gas System increased 18 percent in 1936 over the previous year. Gasoline operating revenues were up 45 percent. Natural gasoline production increased 31 percent, with plant facilities greater, and the average price of the gasoline sold was up 4/10 of one cent per gallon.

The crude oil operating revenues of the United Gas System increased $6,835,713. Net production of oil increased 6,216,461 barrels, and the average price obtained for the oil sold was 10½ cents a barrel higher than in the previous year. The increase in crude output occurred in Southwest Texas as well as in the Rodessa field.

Cities Service Company

Cities Service Company and subsidiaries reported that for 1936 the consolidated net income, after all prior charges, applicable to the stocks of the company, was $6,965,497. This was an increase of $1,109,232 over the $5,856,265 reported for 1935, after providing an additional $3,641,000 for current appropriations for depletion, depreciation, replacements, and reserves for contingencies. The earnings were better in all three major branches of business in which the company operates, namely, the petroleum, electrical, and gas industries. The consolidated gross income of Cities Service Company and subsidiaries for 1936 amounted to $49,686,000, an increase of $4,299,000 over the previous year.

Creole Petroleum Corporation

Creole Petroleum Corporation reported for 1936 profit of $8,596,448, after federal income tax, depreciation, depletion, amortization, minority interest, etc. This is an improvement of 56 percent over the profit of $5,509,067 reported for 1935.

Creole Petroleum Corporation is among the companies controlled by Standard Oil Company of New Jersey. Several other companies controlled by Standard of New Jersey also have reported for 1936, although some of them, including Humble Oil & Refining Company, still have not issued reports. The information that is available, however, indicates that Standard Oil Company of New Jersey will show for 1936 an increase of about 50 percent in earnings, compared with 1935. The Standard of New Jersey for 1935 reported consoli-

dated income of $62,863,192. It has been estimated in various quarters that Humble Oil & Refining Company, important domestic subsidiary, will show for 1936 an increase of about 50 percent over the profit of $23,966,326 reported for 1935.

Simms Petroleum Company

The board of directors of Simms Petroleum Company has declared a dividend in liquidation in the amount of 50 cents a share, payable April 30, to stockholders of record April 23.

Pierce Oil Corporation

Pierce Oil Corporation for 1936 showed a net loss of $1,108,085, after interest, expenses, and payment of $1,049,751 in settlement of United States tax claims for 1918, 1919 and 1920. This compares with net income of $3,259 in 1935.

Pierce Petroleum Corporation

Pierce Petroleum Corporation for 1936 showed net loss of $679,758, after expenses, interest, $141,853 loss on sales of Consolidated Oil Corporation stock, and $1,013,789 paid in settlement of United States tax claims. In 1935 Pierce Petroleum Corporation reported net income of $124,355.

CARIB STOCK SOLD

Stock holdings of Carib Syndicate in Colombian Petroleum Company, amounting to 20,868 shares, have been sold to the principals in South American Gulf Oil Company (The Texas Corporation and Socony-Vacuum Corporation) for a consideration not made public. Rumor has it that the price paid was $2,086,800 as Carib stockholders were asked to authorize sale some time ago at a price of $100 per share. Carib stock amounted to 20.86 percent of Colombian Petroleum stock. With the purchase of the Carib holdings The Texas Corporation and Socony-Vacuum Corporation hold all of the stock of Colombian Petroleum Company except 250 shares.

CONFISCATE FUNDS

Harrisburg, Pa. — Plans are quietly being made by state revenue officials to seize between 30 and 40 million dollars in unclaimed funds held by Pennsylvania corporations.

Much of the money is believed held by oil companies, while railroads, insurance companies, utility corporations and industrial concerns hold the balance. Some $6,000,000 is said to be in Pittsburgh and Allegheny County, headquarters for many oil companies, and from $15,000,000 to $20,000,000 in Philadelphia.

Unclaimed dividends, returned to corporations when they are unable to find the stockholders of record, constitute the largest part of the funds affected by escheat proceedings planned by the state. Unclaimed stock to have been issued to bondholders in reorganization of corporations and unclaimed when the bondholders failed to deposit their securities, unclaimed debts which are principally bonds, and unclaimed interest on debts, principally bond interest, comprise another large part of these funds. Unclaimed insurance funds and customers' deposits given utilities as guarantees of payment of bills for service but never claimed constitute the balance.

Department of Revenue officials declined to name the corporations which will be affected by the proceedings, or the informants, who stand to collect sizeable sums. Proceedings are to be started within 60 days. Escheaters are to be appointed in accordance with the procedure outlined in the state fiscal code and will receive 15 percent of the total collected. They are to finance the proceedings, employing necessary accountants, attorneys and clerical help.

The informants, who will receive 25 percent of funds collected, are reported to be a group of Philadelphia attorneys who have examined records of the companies and studied the escheat laws. They are said to have spent three years in preparation of the work.

These cases represent a precedent for the state as it is the first time information asserting the state's claim to corporate funds has been filed with the department. Previously, the only properties named by escheat informers have been estates with no legal heirs. Funds escheated to the state will be held in the state treasury for three years, after which time they belong to the state if the rightful owners do not claim them.

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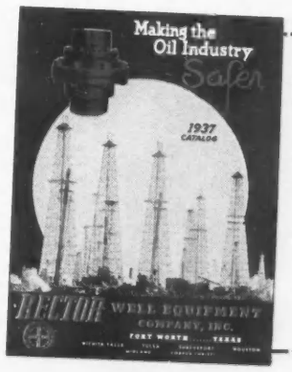

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WORLD DEVELOPMENT and TECHNOLOGY

Edited by
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Italy's Problem

SELF-SUFFICIENCY IS GOAL OF PRODUCERS AND REFINERS

ITALY hopes to increase the domestic production of motor fuel from her oil fields by more extensive drilling operations now in progress and from her lignite deposits by the hydrogenation plants now under construction, according to Charles Will Wright, foreign mineral specialist of the United States Bureau of Mines who is abroad making a study of the mineral situation in various European countries.

Early in 1936 the question of Italy's supply of petroleum products, essential during the period of sanctions, was of international interest. A brief abstract of Wright's report on the effect of sanctions on the petroleum industry of Italy, following re-establishment of trade, follows:

The ultimate result of sanction against Italy has been to encourage self-sufficiency in mineral production and to create a desire by the producing companies, aided financially by the government, to help supply the nation with its required mineral products.

Building Synthetic Plants

Italy's gasoline supply, its source, as well as that of other petroleum products, was of vital interest during the period of sanctions. Having been threatened with the difficulties in obtaining the required imports, Italy is preparing to be less dependent on imports by the construction of hydrogenation plants for the production of synthetic gasoline. Two such plants are under construction, one at Bari for the oils from Albania and Iraq, with a capacity of 200,000 tons of crude oil a year, and the other at Leghorn, with an annual production capacity of 150,000 tons, using lignite as the principal raw material. These plants are being built by Azienda Nazionale Idrogenazione Combustibili, a joint stock company in which the government owns half of the shares through A.G.I.P. and A.I.P.A., and the other half is owned by Societa Montecatini. It is capitalized for 4,000,000 lire.

Present capacity of refineries in Italy is being largely augmented by the new refinery for 300,000 tons of crude under construction at Trieste by "Aquila" Company, a new refinery at Porto Marghera being built by Azienda Generale Italiana Petroli, and the new refinery at Naples being built by Vacuum Oil Company. All three of these plants are scheduled for completion in 1937. In addition to them, plans for erection of a refinery at Tripoli by Azienda Commerciale Italiana Olii Minerali of Genoa have been announced.

Crude oil production in Italy reached a peak of 30,000 tons in 1932 and dropped to 16,000 tons in 1935. Imports of crude oil in 1935 were 220,000 tons, compared with 143,000 tons in 1934, and those of residue oil were 1,200,000 tons in 1935 against 1,123,000 tons in 1934.

Gasoline production in Italy in 1935

Who's Who in Italian Oil

IMPORT QUOTAS AND PRODUCTION LICENSES, 1937
(In Thousands of Barrels)[1]

COMPANIES	Gasoline	Kerosene	White Spirit	Gas Oil & Diesel Oil	Fuel Oil	Lubricating Oil	Bitumen	Total
Azienda Generale Italiana Petroli (A.G.I.P.):								
Imports	49	248	...	232	1,132	81	...	1,742
Production	850	194	41	290	*	42	169	1,586
Total	899	442	41	522	1,132	123	169	3,328
Standard Oil Co., N. J.:								
Imports	962†	225†	...	547†	966	33	...	2,733
Production	128	132	...	61	*	126	91	538
Total	1,090	357	...	608	966	159	91	3,271
Royal Dutch-Shell Group:								
Imports	233	116	57	595	866	133	...	2,000
Production	552	108	...	58	*	...	...	718
Total	785	224	57	653	866	133	...	2,718
Socony-Vacuum Corp.:								
Imports	.....	.....	...	.....	.....	25	...	25
Production	(587)	(101)	...	(221)	*	53	...	53
Total	(587)	(101)	...	(221)	.....	78	...	78
Soc. An. "Aquila", Trieste:								
Imports	.....	.....	...	.....	.....	...	...	.....
Production	238	78	16	145	*	70	73	620
Total	238	78	16	145	.....	70	73	620
Italian Independent Companies:								
Imports	696	167	24	433	1,918	110	...	3,348
Production	102	46	33	85	*	49	103	418
Total	798	213	57	518	1,918	159	103	3,766
All Companies:								
Imports	1,940	756‡	81	1,807	4,882	382	...	9,848
Production	1,870	558§	90	639	*	340	436	3,933
Total	3,810	1,314	171	2,446	4,882	722	436	13,781

* Unlimited.
† These figures include the production quotas of the Socony-Vacuum (given below in parentheses) in accordance with an agreement between the Socony-Vacuum subsidiary and the Societa American del Petrolio (Standard, N. J.), by which the latter company manages its sales during 1937.
‡ Imports of tractor kerosene.
§ Production of illuminating oil.
[1] Figures taken from Revista Italiana del Petroleo.

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DRILLING AND PRODUCTION TOOLS

was 103,071 tons, of which but 9568 tons were produced from domestic crude. Gasoline imports in 1935 were 366,530 tons compared with 346,880 tons in 1934.

Kerosene production in Italy during 1935 was 49,870 tons, of which 4584 tons were produced from domestic oil. Kerosene imports in 1935 were 154,532 tons and 150,423 tons in 1934.

The country's production of lubricating oils in 1935 was 24,514 tons, compared with lubricating oil imports of 89,938 tons, primarily from the United States.

"The importance of mineral products in which Italy is deficient," says Wright, "is far greater from a strategic viewpoint than that of the surplus mineral products. No country can develop industrially without abundant supplies of iron ore, manganese ore, copper, lead, zinc and nickel, and of coal, coke and petroleum products. Italy depends upon imports for the greater part of her requirements of these products and, with the exception of zinc, lead and possibly manganese, there seems to be little hope that it will ever be able to supply even its normal needs," Wright declared.

Wildcat Watched

CANADIAN TEST ON PINCHER CREEK SHOWING OIL AND GAS

WEST Canadian oil interest this week will be centered on Weymarn Petroleum, Ltd.'s Alberta Wildcat on the Pincher Creek structure, Legal Subdivision 5, Section 7, Township 6, which is scheduled for a production test. Gas and oil have come up through the rotary drilling fluid in the 5960-foot hole.

The past week saw an increase in active Turner Valley, Alberta, wells from 25 to 32, with a gain of one—to 15—in active tests on other West Canadian structures.

Cellar is digging for Royalite Oil Company, Ltd.'s Sterling-Pacific 6, which is located between Royalite's Sterling-Pacific 4, and Sterling-Pacific 5. It will test an area on the west flank of Turner Valley. Sterling-Pacific 4 is one of the largest producers in the valley, at present yielding more than 1000 barrels daily. Casing has just been cemented at 2836 feet on Sterling-Pacific 5.

Cellar is dug and a steel derrick is being hauled to the site of Royal Canadian Oils, Ltd.'s well in Legal Subdivision 15, Section 20, Township 18, which is west of Foundation Oil Company's producer and south of Davies Petroleum, Ltd.'s No. 2, recently spudded.

13 Spud During Week

Other Turner Valley wells started during the past week are those of: Model Oils, Limited-Spooner Oils, Limited-Reward Royalties, Legal Subdivision 4, Section 28, Township 18; Mutual Oil Company, Legal Subdivision 6, Section 29, Township 18; Kermac Petroleums, Limited, Legal Subdivision 16, Section 18, Township 19; National Petroleum Corporation's No. 1, Legal Subdivision 8, Section 29, Township 18; and West Crest Petroleums, resumed drilling at 4300 feet.

Richland Oil Company's No. 3, next Turner Valley well to reach the test stage, was deepened 100 feet during the week to 5400 feet. Located between three large producers, operators are extending more than usual interest to this test, which is believed to be 300 feet from the limestone. Location is Legal Subdivision 14, Section 28, Township 18. Richland's No. 2 was drilling below 3605 feet after setting casing to 3355 feet; Richland's No. 1 was drilling below 2100 feet.

Monarch Royalties, Ltd.'s test, Legal Subdivision 9, Section 20, Township 18, made over 700 feet during the past week and is now drilling below 3850 feet. It is next to Richland 3 in depth among active Turner Valley wells.

Shooting And Using Acid

Slight increases in production at Renfrew Royalties, Ltd.'s well and the Newfold Royalties, Ltd.'s test were reported following treatment last week. Cleaning was still in progress as the week closed. Renfrew Royalties was shot, while Newfold Royalties was given acid treatment.

A third Turner Valley well treated, Royalite Oil Company's Dalhousie 8, on the central west flank, was fishing for a twisted-off drill stem. This will be followed by cleaning to determine results of a 1000-quart shot. The well failed of commercial production when completed recently.

Following is the standing of other Turney Valley wells as the week closed:

Brown Oil Corporation, Ltd.'s No. 1, drilling at 1750 feet; No. 2, drilling at 1850 feet; Commoil, drilling at 1800 feet; Davies Petroleum, Ltd.'s No. 1, drilling at 1020 feet; No. 2, drilling at 1010 feet; Firestone Petroleum's, Ltd., drilling at 800 feet; Globe Oil Company drilling at 310 feet; Granville Oil Company, drilling at 1848 feet; Mercury Royalties, Limited, drilling at 2820 feet; Mercury Oils, Ltd.'s No. 8, changing rig at 2755 feet; National Petroleum Corporation, Ltd.'s No. 2, drilling at 300 feet; North American Petroleums, drilling at 50 feet: Phillips Petroleum, drilling at 2450 feet; Prairie Royalties, Limited, casing at 1880 feet; Royal Crest, drilling at 1175 feet; Share Royalties, drilling at 1411 feet; Sunburst, drilling at 1025 feet; Sunset Oils, Limited, drilling at 185 feet, and Three Point Petroleums, drilling at 750 feet.

Steel derrick has been erected and heavy duty rotary equipment is en route from the United States for Westflank Oil Company, Ltd.'s No. 1, Legal Subdivision 1, Section 32, Township 18, and cellar is to be dug and derrick erected immediately for No. 2. Balance of material is awaited at the Spy Hill Royalties, Limited, test, Legal Subdivision 16, Section 20, Township 18.

Canada's Deepest Still Drilling

Arca Development Company's wildcat on the High River-Aldersyde structure, being drilled jointly by the C. and E. Corporation, Imperial Oil Company, Limited, and interest associated with the Calgary Gas Company, was drilling at 8934 feet as the week closed, by far the greatest depth attained by any Canadian well and believed by Canadian oil men to be the greatest depth attained by any well drilled in the British Empire. It is about 15 feet below the old bottom where tools were lost some time ago. The operators plan to drill another 200 feet before making a test. "We don't know yet whether we will get production or not," H. R. Milner, K. C., Arca president, said.

Western Development Company, Limited, of Edmondton, has filed an application for a permit to prospect 10,000 acres in the Clearwater district, 40 miles east of Waterways, Alberta, for petroleum and natural gas. Just as soon as navigation opens, the company plans to move in a drilling outfit.

Large Block Taken

Announcement that oil rights on 32,000 acres in the Sarcee Reserve had been granted to unnamed Alberta interests by the Department of Indian Affairs assured a drilling program within 10 miles of the Calgary city limits. Department regulations require that work must be started within nine months, or a three months notice of cancellation of the lease may be given by the department.

QUOTAS EXCEEDED

Russian Sakhalin reports 308,000 tons in 1936

Sakhalin Oil Trust, operating on Sakhalin Island for U.S.S.R., reported drilling and production quotas for 1936 were exceeded, production on the island from Russian leases amounting to 308,000 metric tons during the year, all from wells in Okha field, according to a recent announcement in Pravda, one of the official Soviet publications. This amounted to twice the oil recovered on Sakhalin by the Japanese concessionaires, the item stated.

Following discovery of light oil in Ekhabi in December, a 10-inch pipe line has been constructed from there to Okha and is running oil. The report stated one of the wells in new Ekhabi field initially produced 50 tons, or about 350 barrels, per day.

In February there was no road between Ekhabi and Okha, equipment being moved in to the former by tractors.

Pravda states men are brought to Sakhalin on a three-year contract, at the end of which they are granted extra vacations and a free passage to their homes. Their families have been brought over to the island, and early in 1937 almost half the population of the place was said to be under 18 years of age.

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Connally Act Hearing

[*Contiued from Page 41*]

in sight now than ever before. New discoveries since the beginning of 1935 have resulted in increasing underground reserves by 200,000,000 barrels, despite heavy production. The present reserves are adequate for more than 15 years, he said.

Inclusion in the bill of a provision giving the president authority to act should states permit production greatly in excess of demand, thus menacing national resources—the opposite of the authority granted in Section 4 of the law, was proposed by Representative Wolverton. Thompson refused to admit the necessity for any such provision, declaring there could be no inducement for such relaxation of restrictions.

Want Law Continued

Practically all producers are anxious for continuance of the law, it was declared by Russell B. Brown, general counsel for the Independent Petroleum Association, and view it as a great stabilizing influence.

Explaining that the industry had had some "very unsatisfactory" experiences with men appointed to the tender board during the early days of its operation, Brown urged that the law be made permanent so that men of the necessary high type could be secured. The present group is working in a manner highly satisfactory to the industry, he said, but continuance of this condition could not be assured if it was felt that the law was only temporary.

Says Import Taxes Not Too High

Brown contended that the present import taxes are not too high, pointing out that imports of crude have been increasing gradually. "In my judgment," he said, "the reason there is not more imported oil at this time than there is, is because at the time the code was put into effect there was a provision limiting imports in a similar ratio to the states' limitation of production, and that balanced program has been continued."

He told the subcommittee that production costs have been increasing during the past year, due in part to the fact that new developments are practically all much deeper than those in the past, resulting in higher exploration charges, and that labor costs also have been mounting.

Members of the subcommittee questioned Brown at length regarding the independents' demand for limitation of imports, and he explained that increased entries of foreign oil would necessitate the closing down of stripper wells and dependence solely upon flush, low cost, production.

His explanation, however, did not satisfy Representative Wolverton, who attacked the conservation plea as really directed toward stabilization of prices rather than the conserving of domestic resources.

Conservation Versus Reservation

"If the condition of our oil reserves is such as some have indicated," the Congressman argued, "it seems to me our attention should be directed to the use of foreign oil instead of domestic, but you are not interested in that and have indicated your organization is opposed to the larger companies because you do not want any oil imported."

"The effect of imports would be to jeopardize our resources," Brown replied, "since you would have to close a considerable number of wells. There is a difference between conservation and reservation."

Again raising the question of possible gouging of the public if the law were made permanent, Representative Pettengill asked Brown if he did not favor the inclusion of protective provisions, and was told that the independents feel that there is ample safeguard for the consumer. He pointed out that Section 4 of the act, empowering the president to suspend the law if demand was found to exceed supply, is adequate to meet with any such situation and that, further, competitive conditions are such as to make practically impossible any effort of any state or group of companies to control prices by restricting production.

Position of Stripper Wells

The case for the proponents was completed with the presentation of a brief by H. B. Fell of Ardmore, Oklahoma, executive vice president of the National Stripper Well Association, in which it was pointed out that the act is an important factor in keeping the

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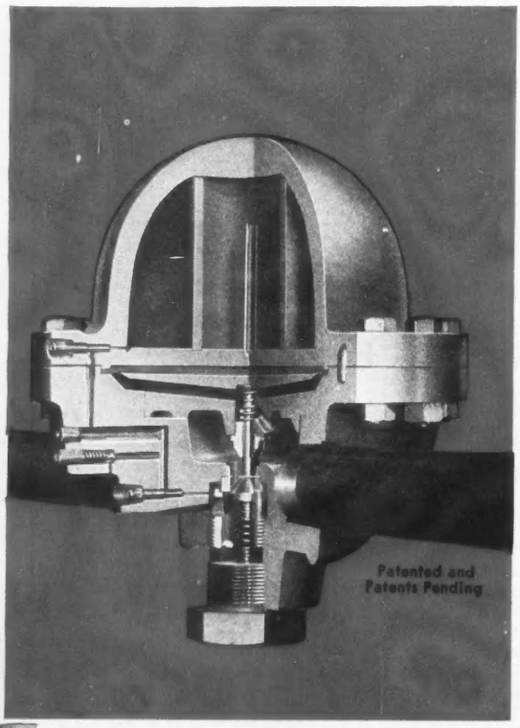

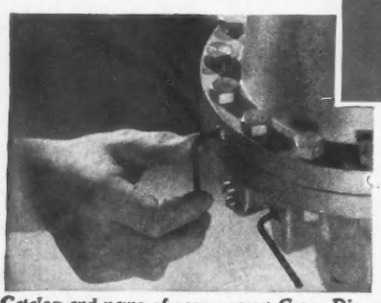

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"The abandonment of any large number of the stripper wells might mean the total loss of the oil reserves which they reach," he declared. "Many of the present wells would be filled with water if pumping was stopped. Because the amount of recovery from these wells ranges from one-eighth of a barrel to a barrel per day, it would not pay to drill new wells in these fields."

The present stripper wells are not the only ones affected, Mr. Fell pointed out, for ultimately all wells pass out of the flush stage and go on the pump if they do not go dry.

Conservation laws should be adopted only in time of national emergency, a situation which does not exist in oil, the subcommittee was told by T. O. Baucum, Murray, Kentucky, representing the Kentucky Petroleum Marketers' Association, in opening the case for the opponents.

Under the guise of conservation, Baucum charged, the integrated companies have made "fabulous and unbelievable" incomes, while the life earnings of independent jobbers have been confiscated without legal process of law.

Recommends Disintegration of Majors

He recommended disintegration of major companies and submitted an amendment whereby he said this might be accomplished.

Baucum declared the complaint of the jobbers has been substantiated by the government's charges in the Madison, Wisconsin, cases.

"We contend that the jobber and marketer is the 'forgotten man' in this instance and that we have been discriminated against and that rank conspiracy has been perpetrated upon us," he said. "Such legislation is also confiscatory. The loss we have experienced in our operations leads us to know that our properties are being gradually confiscated, and, unless we have relief by our great government, we who have spent our lives in building a business will find our properties taken over at bankrupt figures and our maturity of years would render us disqualified in seeking employment with other concerns."

Charges Price Control Motive

William E. White, Petersburg, Virginia, presenting briefs in opposition for the Dixie Interstate Jobbers Association and the Virginia Petroleum Jobbers Association, told the subcommittee the Connally act has enabled Texas, as a principal producing state, to limit production to a point below "fair demand" for the purpose of putting prices up.

No effort, however, has been made to put the situation before the interior department with a view to having Section 4 of the act invoked, he admitted. However, he said, the jobbers took the matter up with the department of justice and were instrumental in having the Madison suits instituted.

Inclusion of provisions prohibiting any person or organization, directly or indirectly, engaging in more than one of the production, refining and marketing branches of the industry and prohibiting any pipeline carrier from transporting any oil or oil product produced by it or by any organization in which it has any interest was demanded April 29 by Paul E. Hadlick, secretary and counsel of the National Oil Marketers Association.

Hadlick asserted that the independent jobbers and dealers are entitled to either the protection afforded by the free flow of competition, protection from "the nefarious competition of the major oil companies in absorbing marketing losses in their production and other operations," or an assured return on their investment.

"To continue the present Connally act without protective amendments is about as logical as for the government to give an exclusive franchise to a utility company to supply a community with gas or electricity without keeping any check on rates or earnings," he declared.

"What assurance have we that the oil producing states will not reduce allowables to such a point below market demand that prices will rise rapidly. The control and profits being in production, pipe line operation and refining, it stands to reason that, as in the past, a great deal of the increased price would be taken out of the hides of independent jobbers and dealers."

The Connally act, he charged, has operated to "play into the hands of the major oil companies, giving them practically monopolistic control of the production of oil; thus enabling and bringing about effective control of refinery runs and a false shortage of refined petroleum products.

"Supply has been artificially cut down while demand has been growing," he said. "There has been no free flow of that competition which is necessary to our American system.

Members of the subcommittee evinced doubt whether Hadlick's proposed amendments would prove a panacea for the situation. Representative Mapes raised the question whether disintegration, while possibly improving the situation of the marketers, would hold any protection for the public against price gouging, since the states would still have their present control of production.

Congressman Pettengill also expressed doubt whether present conditions should be attributed to the Connally act.

"It is not clear in my mind," he said, "whether the blame for the shortage of oil and hence the limit on supply can be properly attributed to the Connally act. It seems to me that goes back to the statute of the State of Texas, which would still be operative if the Connally

Labor Situation

UNIONS ACTIVE, COMPANY ORGANIZATIONS ABANDONED

Houston.—Last week brought on the one hand continued efforts of labor union organizers to enroll workers in the oil industry, and on the other hand abandonment of the company union by some oil companies because of the frowning upon such unions by the Supreme Court in the Wagner Act decision.

Meanwhile, additional oil companies manifested the desire or willingness to be fair to employes regarding working conditions, by increasing wages and salaries and by adopting shorter working hours per week.

Quit Conference Plan

Campaigns that previously had been launched in the oil country by the Committee for Industrial Organization and by the American Federation of Labor have been intensified, following official abandonment of the company union by Humble Oil & Refining Company, Pan American Refining Corporation (Standard of Indiana subsidiary), and others.

Under that plan, also known as the joint conference or Rockefeller plan, employes elected representatives to discuss employer-employe problems with the management, and the company contributed financial support to the organization.

Under the Wagner Act, however, the company union as employed in some instances is considered objectionable, and consequently the plan is being abandoned.

While the C. I. O. is carrying on its drive for membership in the oil industry, endeavoring to embrace workers throughout the industry, similar work is being done also by the A. F. of L., which unites workers in crafts within industries. In some instances in the oil country the C. I. O. and A. F. of L. are fighting each other, while in other cases they are working harmoniously, leaving to national headquarters the controversy that separated John L. Lewis and his C. I. O. from William Green and his A. F. of L.

Unions Are Active

Oil workers that have been left without union affiliation through quitting of company unions now have the choice of joining the C. I. O., the A. F. of L., or local employe organizations, or of dealing individually with the employers. In some refining districts, as on the Texas Gulf Coast, there are in progress, consequently, campaigns to unite workers into their own local labor organizations and to prevent the C. I. O. or the A. F. of L. from gaining the majority of workers in the various plants as members and thereby the right to act as the bargaining agency for such workers. At the same time, however, the established unions, with their national ramifications, are aggressively pushing their own campaigns, which have been in progress in the oil industry for several weeks.

law became inoperative this noon, and it is not clear in my mind how anybody expects to benefit by the non-extension of the Connally act except insofar as they might become potential buyers of illegally produced oil in Texas.

Favors Import-Export Balance

"With respect to imports, I am leaning very much to the personal opinion that it is rather asinine to have an import duty so high that we are exporting 200,000 barrels per day more crude than comes into this country.

"I am inclined to think that the ways and means committee had better give consideration toward a reduction of that tariff duty, at least to the point where our imports can equal our exports and there will be no net loss."

Possibly, he suggested, the situation could be met by a sliding scale of duties on foreign crude, the rates going down as withdrawals from storage increased, thereby checking possible undue advances in consumer prices.

Arguing with the subcommittee over the question of conservation, Hadlick denied there was any such thing as underground waste. He could not, however, submit any other reason for the present low yield in the Pennsylvania field, and finally admitted that "if the Federal government felt that there was any such thing as underground waste the proper regulation of the waste without abuse of the marketing demand would be a healthy thing."

It was disclosed by Pettengill that the time limitation in the present act was inserted at the insistence of the house committee as a means of eliminating the temptation on the part of the states to abuse their control privileges. If the law is to be continued, he said, he would seek to have it limited to another specific period for the same reason.

Hadlick's amendment met with a cool reception on the part of the subcommittee, members of which expressed doubt as to whether it was germane and pointed out that, if it were not, it could be thrown out in the House by a point of order if adopted by the committee. It was suggested by Chairman Cole that a conviction in the Madison cases should result in an improvement in marketing conditions and the elimination of some of the abuses complained of by the jobbers.

Following a desultory discussion of the propriety of the amendment, Hadlick announced that if it was not included in the bill his organization would seek to have a separate bill introduced providing for the divorce of the various branches of the industry.

The Maryland Independent Oil Jobbers Association is not in sympathy with the amendment proposed by Hadlick, but is opposed to continuance of the act because, it was charged by Richard E. Breed of Baltimore, it aids the producing states at the expense of the consuming states, aids the integrated companies to obtain profits in one branch to offset losses in other branches and allows the major companies to manipulate prices to suit their own interests.

Breed suggested that all restrictions on production be abandoned, leaving the situation to the law of supply and demand, or legislation be adopted prohibiting the use of profits from one branch to offset losses in another.

A complete and thorough investigation of the entire industry to determine "what results have been accomplished by the state proration laws, the oil states compact and the Connally law" was asked of the subcommittee by Clarence Schock, Mt. Joy, Pa., representing the Independent Petroleum Jobbers Association of Pennsylvania.

Schock renewed the recommendation he made during the senate hearings for creation of a federal corporation to take over the entire production branch of the industry, which would become the sole producing agency in the country and sell oil to all purchasers on the same terms. The necessary capitalization of the proposed company, he said, would be in the neighborhood of six billion dollars.

As an alternative, Schock proposed an amendment to the Connally act, providing for a tax on all concerns engaged in production or refining equal to the amount by which net profits exceeded five percent of a fair invested capital.

Resolutions adopted by the mineral laws section of the American Bar Association, favoring continuance of the interstate compact and the Connally act for a period of two years, were placed in the record by the chairman.

The Connally law has been effective and beneficial to the industry as a whole, it was stated by J. D. Collett of O'Keefe and Collett, Fort Worth, Texas, president of the Mid-Continent Oil and Gas Association.

Under questioning by members of the subcommittee, Collett expressed the view that it should be made permanent, rather than extended temporarily, on the ground that permanent state production control, is to be expected even though the present Texas law is but temporary.

W. R. McCain, Springfield, Mo., representing the Missouri Oil Jobbers Association and other organizations, opposed the bill because, he alleged, it has led to proration and regimentation and through them to monopoly and price fixing.

Before adjourning until May 4, when the hearings will close with the testimony of John W. Frey, member of the interior department's petroleum conservation division, the subcommittee questioned J. W. Steele, chairman of the tender board, and George W. Holland, director of the conservation division, regarding the setup of the organization.

Representative Wolverton questioned Holland at length regarding the provision made for the investigation of complaints and was critical of the fact that no special organization for that purpose has been set up in the department, despite Holland's repeated statement that no complaints have ever been filed with him.

Need Houses

SHORTAGE IN MADISON MAY HINDER TRUST TRIAL

Madison, Wis.—In a city reporting occupancy of 99.1 percent of its dwelling units, Attorney Sam W. Orr faces the discouraging task of finding from 50 to 60 desirable furnished homes for use of major oil company executives who will arrive in Madison September 27 for trial on anti-trust law charges.

Attorney Orr is seeking to rent the homes for an "indefinite" period. Trial of the charges, which involve 26 major oil companies, 71 of their officers, and 3 trade journals, is expected to take from 3 to 6 months and will bring from 500 to 700 persons to Madison, including witnesses and attorneys. The trial will create an acute housing problem in a city where living unit occupancy has long been far above normal.

Buell F. Jones, Chicago, a Standard Oil Company of Indiana attorney, has been named chairman of the defense housing committee for the trial. Attorney Jones turned the job over to Orr.

The housing committee, Orr said, will act as a clearing house and will list available locations for the defendants and their attorneys. Some of the defendants are planning to bring their families and servants, and some will establish offices here for the duration of the trial.

All but four of the individual defendants have waived removal to Madison and, with few exceptions, have entered pleas of innocent to the charges of conspiring to artificially set retail prices of gasoline and to "squeeze out" independent jobbers. Several are still to be arraigned.

The next major pre-trial move in the case involves O. H. Carlisle, Houston division manager of Gulf Oil Corporation, who is resisting removal to Madison for trial. Carlisle is one of four Gulf officials who did not join with other individual defendants in waiving removal. Government attorneys lost the first round in their effort to bring Mr. Carlisle to Madison when U. S. Commissioner W. F. Carothers declined, after a hearing, to order his removal. Federal Judge T. M. Kennerly granted a rehearing on a government appeal, which is tentatively set for May 14 at Houston.

Tulsa.—The annual dinner meeting of the Mid-Continent section of the American Institute of Mining & Metallurgical Engineers will be held here Monday evening, May 3, beginning at 6:15 p.m. in the Tulsa building. R. C. Allen, president and A. B. Parsons, secretary of the organization, will be guest speakers concerning affairs of the Institute. Don R. Knowlton, general production superintendent of Phillips Petroleum Company will speak on "The Future of Well Spacing."

First Aid Contest

SAFETY WILL BE FEATURED AT HOUSTON OIL SHOW

Houston.—Following a meeting of the Safety and First Aid Committee of the Oil-Wold Exposition composed of J. J. Delahide of E. D. Bullard Company, chairman, and Ed Lenzner, assistant chairman, and a committee composed of George J. Gruber, Mine Safety Appliances Company; R. B. Roaper, safety engineer, Humble Oil & Refining Company; Claude Liles, safety engineer, Magnolia Petroleum Corporation; Pete Keegan, safety engineer, Shell Petroleum Corporation; Tom Brown, safety engineer, Gulf Oil Corporation; Jerry Lockwood, safety engineer, Empire Oil & Refining Company, Bartlesville; Cecil Hightower, safety engineer, United Gas Public Service Company, and C. A. Miller, safety engineer, Texas Company, an outline of the program and the activities for the safety and first aid program has been agreed upon by the committee.

Plan Buffet Luncheon

A buffet luncheon will be given during the exposition week on Wednesday, October 13 at 12 noon, and a talk will be presented on safety with demonstrations of personal protective equipment under the supervision of Cecil Hightower of United Gas Public Service Company as chairman.

The Oil-World Exposition championship First Aid contest will be held on October 13 at 7 p .m. P. E. Keegan of Shell Petroleum Corporation and T. H. Felds of the Harris County Emergency Corps will be in charge of the contest rules, training of the judges and selection of the qualified officials. They will be assisted by contesting first aid team instructors. At the completion of the first aid contest and prior to the distribution of the awards and prizes, entertainment will be given for all of the members of the various first aid teams, friends and visitors. George J. Gruber of Mine Safety Appliances Company will be chairman of the entertainment committee.

Special Safety Committee

A special safety committee, with Charles A. Miller, safety engineer of The Texas Company as chairman, has been appointed to supervise and check all exhibits and all operating equipment of the various exhibitors during the entire week of the exposition. This committee will make recommendations of any hazardous or any unsafe exhibits or any features of the exhibits which may, in the committee's opinion, be unsafe; and from its recommendations any necessary changes can be made immediately.

A special fire prevention committee, with R. B. Roaper of Humble Oil & Refining Company as chairman, will be in charge of the selection of the proper types of fire fighting equipment to be placed in the various parts of the main exposition building, outdoor exhibits, as well as the tent; also selection of the personnel to carry out the fire prevention program of the exposition.

Chairmen Appointed

G. O. Lockwood, manager of Empire Oil & Refining Company, has been appointed as chairman of the prizes and trophies committee; Claude Liles, safety engineer of Magnolia Petroleum Corporation, Beaumont, has been appointed as chairman of the publicity committee of the Safety and First Aid division, and T. F. Brown, of Gulf Casualty Company of Houston, has been appointed chairman of the Frst Aid contest and space.

The entire oil industry will be asked for cooperation to make Wednesday, October 13 the "Safety Day." A general invitation will be sent to field superintendents, foremen and officials to be present on "Safety Day" and give their full cooperation.

Elimination contests are now being held by the leading oil companies' first aid teams; and the winners of these contests will be entered in the first aid contest at the exposition to be held in Houston, Texas, October 11-16, 1937. The committee anticipates a larger number of teams participating in the 1937 contest than in any previous first aid contest.

Ponca City.—The next regular monthly meeting of the Oklahoma and Kansas area representatives of the Mid-Continent Oil & Gas Association, will be held here Tuesday, May 4, with J. A. McNeese, Continental Oil Company, as chairman. Speakers for the meeting include George R. Blake, Kanotex Refining Company, Arkansas City, Kansas, and Frank Moore, Continental Oil Company, Ponca City. Another speaker is yet to be chosen from the staff of the Oklahoma Tax Commission at Oklahoma City. The meeting will convene at 6:30 p.m. at the Jens-Marie hotel.

Houston Show Safety Committee Meets

The following men were present at a meeting of the Safety and First Aid Committee of the Oil-World Exposition recently: Top row: Ed Lenzner, Manager, Oil-World Exposition, Inc.; C. B. Boone, Secretary, Petroleum Safety Engineers Club; C. L. Hightower, Safety Director, United Gas Public Service Co.; Lee Connors, Safety Engineer, The Texas Co.; Fred Rousseaux, Safety Engineer, The Texas Co.; Geo. J. Gruber, Safety Engineer, Mine Safety Appliances Company. Bottom row: Wm. Grant, Safety Engineer, Humble Oil & Refining Co., Refinery Division; Vick Hayslip, Safety Director, Humble Oil & Refining Co., Production Division; J. J. Delahide, District Manager, E. D. Bullard Co.; P. E. Keegan, Safety Engineer, Shell Petroleum Corp., and Claude Liles, Safety Engineer, Magnolia Petroleum Corp.

MELLON INSTITUTE

Scientists to speak at dedication of building

The names of internationally-known scientists who will take part in the program of Mellon Institute when its new building is dedicated May 5-9, were released yesterday by Dr. Edward R. Weidlein, Director of the Institute.

They include four Noble laureates, as well as other nationally recognized figures in chemistry, other sciences and medicine.

Nobel Prize Winners Speak

At the formal dedication of the building in the afternoon of May 6 in Carnegie Music Hall, with Dr. Weidlein presiding, addresses will be given by three Nobel prize-winners—Dr. Irving Langmuir (chemistry), Dr. H. C. Urey (physical chemistry), and Dr. W. P. Murphy (medicine). Brief addresses will be given at this event by Andrew W. Mellon and Richard K. Mellon, representing the Founders.

The Trustees' dinner will be held in the evening of the same day, among the speakers being Dr. Benjamin T. Brooks, Dr. Karl T. Compton, and Dr. F. C. Whitmore. A. V. Davis, chairman of the board of the Aluminum Company of America, will be toastmaster. Trustees of the Institute comprise John G. Bowman, president, Dr. Weidlein, vice-president, Henry A. Phillips, secretary-treasurer, Andrew W. Mellon and Richard K. Mellon.

Recent Progress in Science

The third outstanding scientific event of the dedicatory ceremonies will be the Symposium on Recent Progress in Science, scheduled for the morning of Friday, May 7, in Carnegie Music Hall. Speakers will include Dr. G. O. Curme, Jr., Dr. F. B. Jewett, Sir Frederick Banting and Dr. W. W. G. Maclachlan.

Dr. Murphy, given the Nobel prize in medicine for 1934, is co-discoverer with Dr. George R. Minot of the efficacy of liver treatment for pernicious anemia. Dr. Urey, who has been editor of "Chemical Physics" since 1933 and who won the Nobel prize in chemistry in 1934, is distinguished for his co-discovery of "heavy" hydrogen or, as it is called in lay terminology, "heavy water." Dr. Langmuir, who was awarded the Nobel prize in chemistry in 1932 for his work in surface chemistry, is an outstanding research man with the General Electric Company, Schenectady, New York.

Dr. Brooks, one of the three visiting scientists to speak at the Trustees' dinner, has had a long and successful research career in petroleum chemistry and chemical engineering. Dr. Compton, widely known as a physicist, is president of Massachusetts Institute of Technology. Dr. Whitmore, whose field is organic chemistry and who has held important teaching and research posts in the United States and England, is dean of the School of Chemistry and Physics at State College, Pa., and president-elect of the American Chemical Society, of which Dr. Weidlein is now president.

Of the noted scientists who will participate in the Symposium on Recent Progress in Science, Dr. Curme, who once headed a series of fellowships at Mellon Institute, has an honored reputation in the scientific world as a research man and author. He is vice president of the Carbide and Carbon Chemicals Corporation, which he aided to create. Dr. Jewett, whose field is electrical engineering, and who was awarded the Faraday medal for 1935 among many other honors, and widely known as author and speaker on physical and electrical subjects, is president of the Bell Telephone Laboratories. Dr. Banting was awarded the Nobel prize for 1923 for his work on diabetes, leading to his discovery of insulin. Dr. Maclachlan, a member of the staff of Mercy Hospital, Pittsburgh, as well as a leader in national medical groups, has carried out important clinical studies in pneumonia in collaboration with pure-science researchers of the Institute.

Six Years to Complete

The new building of Mellon Institute, which has taken six years to complete, is to be dedicated to science and humanity in honor of Andrew W. and Richard B. Mellon, founders of the institution, who in 1911 gave support to the research fellowship system advanced by the late Robert Kennedy Duncan by establishing a specific department at the University of Pittsburgh and in 1913 placed the system on a permanent basis with the organization of Mellon Institute.

Visitors from many parts of the world are expected to attend the exercises because of the high position which the Institute has won in pure and applied research and because of the unusual character of its new home, which clothes in classic beauty a modern workshop of science in which many features of construction and equipment have been the result of exhaustive experimental research.

Details of Program

First announcement of the detailed program for the dedicatory week also was made by Dr. Weidlein. This program follows:

Thursday, May 6, 9 a.m., assembly of out-of-town guests at the Institute's new building; 10 a.m., preview of the building for former fellows, past and present research donors, and other guests; 12 m., luncheon for visiting scientists, Hotel Schenley, and luncheon sponsored by the Robert Kennedy Duncan Club for former fellows, University Club; 2 p.m., dedication exercises, Carnegie Music Hall; Trustees' dinner, 7:30 p.m., William Penn Hotel.

Friday, May 7, 10 a.m., Symposium on Recent Progress of Science. Carnegie Music Hall; 12:30 p.m., luncheon for visiting scientists, University Club; 2:30 p.m., special meeting of Robert Kennedy Duncan Club, Institute Auditorium, and inspection of the new building and special exhibits; 7 p.m., group dinners for visiting scientists.

Hearings Postponed

Austin.—The Texas Railroad Commission has postponed until May 13 its hearings on four West Texas fields which were scheduled for next week. May 13 evidence will be taken on the proration systems in effect at Sand Hills, North and South Cowden and Waddell-Henderson fields.

SWEET GAS BILL

Texas' House committee gives favorable report

Austin.—The House Committee on Oil, Gas, and Mining has reported out favorably a bill intended to control gas waste in the Texas Panhandle, and especially to prevent the burning of sweet gas for carbon black.

The bill, however, has been amended to allow the use of sweet gas for carbon black, if it is produced from unconnected wells, and to limit the total volume of sour gas used to 750,000,000 feet daily.

The principal amendment is set out below:

"Provided further that in any locality or area within any such above described common reservoir, which is now and has heretofore been served by a natural gasoline plant or plants and carbon black plant or plants, in which said area there may be now or hereafter located any gas well or wells producing sweet gas, as that term is defined by existing law, which said gas well or wells is not, where now completed within one hundred twenty (120) days after the effective date of this law, and where such well or wells which may hereafter be completed are not within one hundred twenty (120) days after completion, being produced and the gas therefrom utilized for one or more of the purposes for which sweet gas may be used under existing law, that the owner of such sweet gas well or wells shall be permitted to sell, dispose of and market not to exceed ten percent (10%) of the daily potential of each well or wells, gas therefrom for utilization as now provided by law for sour gas; provided, however, that in no event shall any gasoline plant operator purchase or process, in the manufacture of natural gasoline, an amount of sweet gas from such above-described wells which exceeds thirty three and one-third percent (33-1/3%) of the total volume of residue gas sold by such plant operator for the manufacture of carbon black; it being understood, however, that no provision herein shall prohibit or be construed as preventing the use of sweet gas for any purpose now authorized under existing law. The owner of such gas well or wells as described above, shall make application for a permit to the Railroad Commission. The commission may make such rules and regulations governing such application as will show that the applicant has made bona fide efforts to secure an outlet for his gas for light and fuel purposes."

Moving to Houston

Houston.—Ohio Oil Company and Illinois Pipe Line Company, transportation subsidiary, will establish a district office here within a few weeks to supplement a small geological and land staff maintained for several years under R. J. Metcalf, district geologist. R. C. Gwilliam, attorney for Ohio Oil Company at Tulsa, will be general manager of the new office.

District offices of Illinois Pipe Line Company now located at Fort Worth and Del Rio will be moved to Houston, with R. N. Montgomery, general superintendent for Texas. Field offices will be retained at Arp, Ranger and Iraan.

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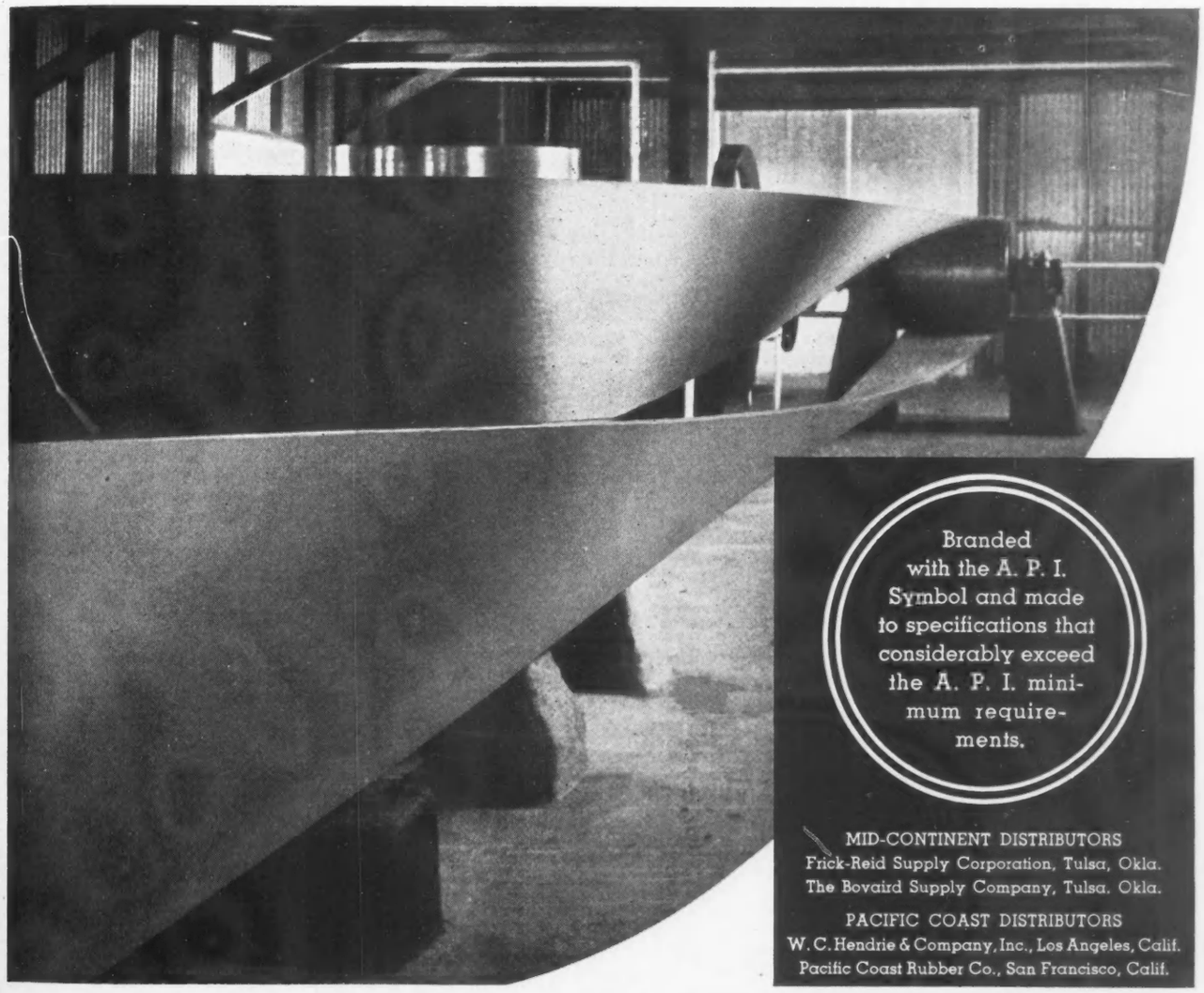

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OKLAHOMA FIELDS

Sinclair Prairie opens new area south of Cromwell.

* * *

Billings pool of Noble County has small extension.

* * *

Crescent pool well misses first Wilcox sand.

Tulsa.—A new pool in Seminole County; a new producer in northwestern Pottawatomie County and another well in the Gilcrease sand at Fitts were chief topics of interest in Tulsa oil circles last week.

Sinclair Prairie Oil Company's Rossanna 1, NWc SW 28-10n-8e, opened a new producing area south of the Cromwell pool of Seminole County. The well showed some natural oil in the first Wilcox sand from 4176 to 4189 feet, and after being acidized, was opened for three hours and flowed 380 barrels of oil through tubing. It was shut in for tankage following the initial flow. On a later test the well flowed 2335 barrels of oil in 21 hours and 45 minutes. Production was believed to be coming from the Simpson dolomite, despite the show in the Wilcox.

The new area will probably be known as the South Cromwell pool. It was given a thorough seismic survey before the test was drilled. The company holds all of Section 28-10n-8e; the east half of Section 29 and SW SE of Section 29-10n-8e. Three new locations are planned by the company to be made immediately.

North Earlsboro Test Shows

Mid-Continent Petroleum Corporation's Logan 1, NEc 31-11n-5e, west of the North Earlsboro pool of Pottawatomie County, was cleaning out with 800 feet of fluid in the hole, most of which was oil. The hole was bottomed at 4843 feet in Wilcox sand, four feet in the formation. After it had drilled plug, the hole filled 1600 feet with heavy black oil and was making some gas. Later in the week the well swabbed 132 barrels of oil in 12 hours and swabbed down. It filled 700 feet with oil and had from eight to 10 barrels of water per day. Operators will acidize but will not deepen. Logan 1 is a twin to a hole abandoned on the location early this year.

Another producer from the Gilcrease sand in the Fitts field of Pontotoc County was in prospect last week as W. D. Delaney's Smith 4, SWc 26-2n-6e, made a drill stem test and had 370 feet of oil in the hole in 20 minutes. Top of the Gilcrease was found at 1915 feet and the well was cored from 1915 to 1930 feet. The well will probably be carried ahead to the Hunton lime for completion.

Operators in the Airport pool near Tulsa were beginning to get signs of a definition of the field's productive limits, as a gasser was completed in the southwest area. The gasser was Adams, Boyd and Purser's Fox Greenhouse 1, in Lot 18, Block 2, Greenlawn addition, near NEc 3-19n-13e. The well drilled into the Burgess sand and below 1420 feet picked up considerable gas. It has since been estimated good for approximately 2,000,000 cubic feet. Pinching out of the Bartlesville sand in this direction may cause a halt in the desire of residents to the southwest to open the restricted area for drilling.

Just west of the test, Kinley's Enoch 1, Lot 19 of the same addition, found the Bartlesville sand from 1094 to 1105 feet and had an odor of oil but no production. It was to be given a shot.

Aitcheson, Pearson et al's Johnson 1, Lot 17, Polston second subdivision, was shot early last week and looks good for better than 40 barrels of oil daily. Production was from Bartlesville sand between 1072 and 1092 feet. The well made numerous brief head flows as the sand, pumped in on top of the shot, was removed from the hole. Toward the latter part of the week, the well made 44 barrels of oil in nine hours and 30 minutes. When cleaning out is finished, it is said the well should be good for about 10 barrels of oil per hour. Completion of Johnson 1 will probably result in numerous new tests in the immediate area.

Another dry hole was reported for the field, being L. O. Carter's Burnham 1, Lot 16, Block 2, Greenlawn addition, which missed the Bartlesville pay and stopped drilling at a total depth of 1117 feet. It was ordered abandoned.

Several Good Ones at Fitts

The usual round of good producers was reported from the Fitts field, with an interesting location heading the list. It is Roodhouse et al's Booth 1, SW NE SE 20-2n-6e, and is to be carried to the Wilcox sand.

Skelly Oil Company's Park College 21, SE NE NW 28-2n-7e, was completed for a potential of 3181 barrels of oil and 2,890,000 cubic feet of gas. Production was from the Hunton lime at 3622 feet, top of the formation being found at 3356 feet.

Magnolia Petroleum Company's Morin 4, SE NE SE 20-2n-7e, topped the Hunton lime at 3667 feet; topped the Sylvan shale at 3997 feet, and drilled to 3999 feet where it made a potential of 3270 barrels of oil and had 2,500,000 cubic feet of gas.

J. Paul Getty, Incorporated's Masters 3, NWc SE 23-2n-7e, flowed oil for 15 minutes into pits, indicating a new producer. No estimate of production was made. Top of the Hunton lime was 3751 feet, and the well was drilled to 3849 feet, with seven-inch casing set at 3751 feet. A drill stem test was made at 3782 feet, but no results had been reported.

Magnolia Petroleum Company's Morin 3, SE NW SE 20-2n-7e, topped Viola lime at 4226 feet and drilled to 4256 feet.

L. P. Sanbach's Norris 1, SE SW NE 28-4n-6e, ¼-mile north of the city limits of Ada, drilled to 1319 feet in sand and tapped a gas reservoir, flowing 15,000,000 cubic feet of gas which blew out around the pipe, forcing mud and water from the hole. The well is in an old area where gas was found more than 20 years ago at around the same depth. Sanbach has made location for a second test at NW NE SE 31-4n-6e which will be drilled to 4000 feet.

To the southeast of Jesse pool, Continental Oil Company made location for two new tests. They will be McCarty 5, NW SE NW 12-1n-7e, and McCarty 6, C SE NW 12-1n-7e. McCarty 5 is to be a deep test, while McCarty 6 will be shallow. Francis Oil Company also made a new location at Provine 1, SW NW NW 2-1n-7e, in the Jesse pool.

North Bethel Extension Probable

Amerada Petroleum Corporation's Billington 1, NEc SE 35-10n-7e, was being completed last week as an extension well of the North Bethel pool of Seminole County. It had the Cromwell sand from 3651 to 3660 feet, and flowed 348 barrels of oil in six hours through tubing.

The same company's Noble 1, SE SW SE 25-10n-7e, had Cromwell sand from 3692 to 3702 feet and flowed 134 barrels of oil in 10 hours and 30 minutes through tubing. The company has staked location for McLaren 1, SW NW NE 36-10n-7e.

Wood Oil Company's Mayhue 1, NEc 14-9n-6e, Seminole pool, Seminole County, topped the Hunton lime at 3990 feet, topped the Sylvan shale at 4023 feet, and drilled to 4025 feet, where it was acidized, first with 5000 gallons and later with 3000 gallons. The well swabbed 58 barrels of oil and 30 barrels of water in 24 hours. Operators were pulling tubing.

Mid-Continent Petroleum Corporation's Gofford 1, NEc NW 35-12n-7e, southeast of Paden in Okfuskee County, drilled to 4599 feet in hard, dry, white Wilcox sand and had a salty taste in cuttings. Top of the Woodford shale was found at 4335 feet, where it also had a stain of oil. Top of the Wilcox sand was found at 4588 feet, but was dry from 4631 to 4638 feet, with indications of salt water. The test was to be abandoned.

Cartwright, Rhodes and Welch's Richards 1, NEc 33-21n-14e, southwest of Claremore in Rogers County, topped the Bartlesville sand at 860 feet and made an estimated 1,500,000 cubic feet of gas. Unless the well can be completed in the Burgess sand, which is expected at an early date, it will be carried ahead to the Wilcox sand.

Billings Gets Extension

Oklahoma City.—Continuing to pick up in drilling activity, Oklahoma City area last week completed one extension and several good producing wells. In the Langston area of Logan County an important well was showing signs of being a disappointment.

The extension well was Tide Water Associated Oil Company's Shafer 1, NEc SW 21-23n-2w, which extended the Billings pool of Noble County one location southwest when it tested 465 barrels of oil in one hour, and made between 7,000,000 and 8,000,000 cubic feet of gas. Production was from sand at 4299-4324 feet. It later flowed 1400 barrels of oil in three hours and was running tubing to take a potential test.

Sinclair Prairie Oil Company's Bagby 2, NE SW NW 27-10n-2w, Moore pool, Cleveland County, made a potential of 10,119 barrels of oil and 19,600,000 cubic feet of gas last week. Top of the Wilcox sand was found at 7305 feet, and the well was drilled to 7309 feet, where it was acidized with 5000 gallons.

Ohio Oil Company's Dahl 4, SW NE SW 31-14n-3w, Edmond pool, Oklahoma County, was completed last week for a 24-hour potential of 2160 barrels of oil daily from Wilcox sand at 6690 feet. During the test, the well flowed 360.06 barrels of oil in four hours on gas lift.

Another Well for Britton Field

Another new producer for Britton field of Oklahoma County was brought in at Jones-Shelburne et al's Williams 1, SEc SW 20-13n-3w, which had a spray of oil as it drilled in under pressure below 6650 feet in dolomite.

Transwestern Oil Company's Church 1, NEc 30-13n-3w, was deepened from 6671 feet in the dolomite to 6796 feet in the Wilcox sand and was flowing around 10 barrels of oil an hour. It was to be given a shot.

Champlin Refining Company's Pfeiffer 2, CN½ N½ NW 4-19n-2w, in the Logan County portion of the Lucien pool, made 351 barrels of oil the first hour and 325½ barrels of oil the second hour on a potential gauge. Top of the second Wilcox sand was 4912 feet and the test was drilled ahead to 5025 feet.

Test Is Disappointing

Amerada Petroleum Corporation and Stanolind Oil & Gas Company's Fouts 2, SE NE NE 14-17n-1w, in the Langston area of Logan County topped Wilcox sand at 5080 feet and set two and one-half inch tubing at 5024 feet. Mud was being pumped out of the hole, but the well refused to flow. After being shut in for five hours, the well still refused to flow. During an 18-hour swabbing test the well made only 15 barrels of oil with no show of gas. The well was shut down waiting on orders.

Meanwhile, from the Moore pool of Cleveland County came word that Gulf Oil Corporation's James 2, SE NW SW 27-10n-2w, which was completed last March for around 19,000 barrels of oil, was going dead. The well was cored ahead to 7289 feet, and the last three feet of the recovery showed good saturation. It was to bail and test.

Sinclair Prairie Oil Company has staked location for Harvey Stamper 7, SEc NW 30-11n-2w, first test to be located in the south end of the Oklahoma City field in several years. Production will be looked for in the Hoover sand, expected at around 4100 to 4300 feet. Tests which proved disappointing in the lower formations are frequently plugged back to this horizon for gas production, while several have yielded some oil there.

Sunray Oil Company and Phillips Petroleum Company's State 13, in the state Capitol area of the Oklahoma City field, drilled to 6516 feet, and after flowing 42 barrels of oil an hour, was reaming and cleaning out. During the latter part of the week, the well established a 24-hour potential of 4882 barrels of oil. Their State 14, on the same tract, topped the Wilcox sand at 6480 feet and was running eight-inch casing.

Lucien Pool Test Has Salt Water

Arab Drilling Company's Harkendorf 1, NEc 34-20n-3w, west of Lucien pool, but in Garfield County, topped the Wilcox sand at 5898 feet and drilled to 5940 feet, where a drill stem test was made. Packer was set at 5932 feet and when the well was opened for 30 minutes, flowed 18 stands of fluid and eight stands of salt water. It was drilling ahead to the second Wilcox sand, with the first Wilcox sand reported dry at 5965 feet.

Continental Oil Company's Conway 1, SEc NW 21-23n-2w, one location west of production in Billings pool, made a potential of 2692 barrels of oil through tubing and averaged 5,900,000 cubic feet of gas at 4322 feet in the Wilcox sand.

Shell Petroleum Corporation's Guthrie 1, NWc SW 31-21n-3w, North Lucien pool, made a potential of 210 barrels of oil in 24 hours, producing from the first Wilcox sand at 5462 feet.

Sun Oil Company's Pfeiffer 3, NWc SW 33-20n-2w, was drilling in the second Wilcox sand below 5060 feet, with oil standing in the hole. The well flowed 35 barrels of oil from the first Wilcox sand topped at 4904 feet. Top of the second sand was 5021 feet, and the well was drilling ahead below 5198 feet in the formation flowing about 60 barrels of oil an hour.

Misses First Wilcox

The Texas Company's Denny 5, NE NW SE 33-17n-4w, Crescent pool, Logan County, apparently missed the first Wilcox sand and drilled ahead to the second sand at 6288 feet. The sand became softer at 6367 feet. Cored from 6625 to 6630 feet, it had a recovery of 10 inches of dolomite with an odor of oil and gas. The well was shut down for orders but may be drilled deeper.

Mid-Continent Petroleum Corporation completed Campbell 6, NE SE NE 33-17n-4w, east of the fault in the Crescent pool, for 272 barrels of oil a day on gas lift through tubing. Production was from 6120 feet, in the first Wilcox sand.

Sinclair Prairie Oil Company's Glocker 1, NEc SW 32-20n-2w, drilled to 5041 feet in the second Wilcox sand and flowed 440 barrels of oil. It may be deepened.

Stanolind Oil & Gas Company and Amerada Petroleum Corporation's Pfeiffer 6, SW NW SW 33-20n-2w, Noble County, had a hole full of oil from the top of the Wilcox sand at 4990 feet. The well later flowed around 100 barrels of oil and hour while drilling below 5055 feet in the second Wilcox sand.

Shell Petroleum Corporation and Phillips Petroleum Company's McCaughtry 9, SWc NE 21-23n-2w, in the Billings pool, made a 24-hour potential of 2393 barrels of oil after drilling to 4320 feet. Tide Water Associated Oil Company's Hackett 3, SE NW SE 21-23n-2w, made a 24-hour potential of 2677 barrels of oil from the Wilcox sand. It had drilled to 4324 feet.

Carter's Carter County wildcat holds interest.

Ardmore.—Center of interest in southern Oklahoma last week was Carter Oil Company et al's Harley Community 1, C NE SE 24-2s-4w, just south of the Milroy pool in Stephens County, and 4½ miles northwest of the company's Ruth Williams 1, in the Fox pool of Carter County. The test passed up a showing of oil in Hunton lime at 4536 feet earlier in the week. Drilling was suspended at 4684 feet following the show, and a packer was set at 4536 feet for a drill stem test. The packer failed to hold and the test was a failure. When last reported, the well was drilling ahead below 5005 feet in the Sylvan shale. Skelly Oil Company, Magnolia Petroleum Company and Gulf Oil Corporation are interested in the test with Carter.

Marlow District Wildcat Abandoned

Hope that another new field for the county would be opened was killed last week as Travis' Hales 1, SE SW NW 33-3n-7w, Marlow district, was abandoned at 3507 feet. Located two miles north of the town of Marlow, the well was bottomed in brown shale, and had only one oil show, that being at 2800 feet.

Gulf Oil Corporation's Berry 1, NEc NW 5-1s-3w, North Tussy pool, Carter County, swabbed 700 barrels of oil from 3205 feet in 18 hours to extend the field southwest. Casing was set on top of the formation at 2688 feet.

Carter Oil Company's Josie Parton 1, NW SE NW 33-1n-3w, on the Garvin County side of the pool, drilled to 2290 feet and was showing for one barrel of oil an hour with five percent water. When later drilled to 2610 feet, the well was estimated good for around 75 barrels of oil daily. It extends the field one location northeast.

Indian Territory Illuminating Oil Company et al's Hatler 1, SWc NE 32-1s-17w, south of Frederick in Tillman County, set cement plug at 4200 feet and was preparing to perforate casing and test showings higher in the hole.

OKLAHOMA
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CARTER COUNTY—		
Heffner et al, Perkins 1, se se se 4-1s-3w	60	2749
Shell, McClure 47, ne ne sw 5-4s-3w (pb 1094)	57	1097
Roy Johnson, Davis 16, sw se nw 6-4s-3w (pb 1105)	6	1155
CLEVELAND COUNTY—		
Gulf, Allen 1, ne sw sw 27-10n-2w (pb 7218)	¶8¼ & 3592	7304
COTTON COUNTY—		
Shasta Oil, School Land 1, se se sw 36-1s-10w	*	2541
CREEK COUNTY—		
Comail Oil, Childers 1, sw sw ne 2-15n-7e	*	4020
Abraham, Holeman 2, ne se ne 24-17n-9e	50	2320
Fred Kroger, Fred Baker 1-A, cnl ne se 14-17n-10e	*	1952
Crosbie, Lacy 5, cne nw 22-18n-8e	10	2630
GARVIN COUNTY—		
Simpson & Fell, Derdyn 3, nw se nw 17-1n-3w (otd 1575)	45	1762
Cox & Hammon, Dixon 1, ne se nw 32-1n-3w	93	2461
Harris 1, se se nw 32-1n-3w	33	2996

See Next Page

Company, Well and Location	Init. Prod. Bbls.	Depth
HUGHES COUNTY—		
Wrightsman, Diamond 1-A, ne ne se 33-9n-9e (pb 3420)	¶30	4280
JACKSON COUNTY—		
Gulf, Southall 2, sw nw sw 2-1n-20w	48	1568
JEFFERSON COUNTY—		
Palmer, Goza-Grason 2, sw se sw 19-6s-5w (pb 1530)	10	1547
Birdwell, Wolhgemuth 9, ne nw nw 30-6s-5w	20	1520
Wohlgemuth 10, nw ne nw 30-6s-5w	112	1514
Wohlgemuth 11, ne nw nw 30-6s-5w	80	1528
Buffalo Oil, Crownover 1, se se nw 21-6s-6w	*	2811
Circle Oil, Seay 41, cw½ se 3-7s-5w	23	1085
Korts et al, Penniston 1, ne nw sw 16-7s-5w	*	828
KAY COUNTY—		
Clark Nye, McCollough 1, nw nw se 5-28n-1w	222	2793
LOVE COUNTY—		
Dodson et al, Key 1, se se nw 6-8s-6w	*	3360
NOBLE COUNTY—		
Phillips & Shell, McCaughtry 8, se nw ne 21-23n-2w	¶2¼ & 5269	4309
Tide Water Oil, Hackett 3, se nw se 21-23n-2w	¶7¼ & 2677	4323
OKFUSKEE COUNTY—		
Chapman, Williams 4, se ne sw 25-10n-8e	12	1778
Evens, Goodin 2, ne nw nw 36-10n-8e	50	1746
Arkansas Royalty, Fisher 10, nw sw se 18-10n-9e	265	1900
OKLAHOMA COUNTY—		
British-American, Parkway 4, sw sw ne 27-12n-3w	7657	6524
Inland Dev. Howes Capital 1, se nw se 27-12n-3w	6456	6525
Transwestern Oil, W. C. McGrew 1, sw sw sw 20-13n-3w (otd 6690) ..	273	6800
O. Meeker 1, nw ne nw 29-13n-3w	¶4 & 2442	6680
OSAGE COUNTY—		
Barnsdall, 21, se nw se 5-20n-12e...	10	1400
Murray, Ringold, Turkey Island 10, sw nw ne 25-21n-8e	*	1144
Grimes & Gillespie, 14, nw sw se 31-21n-12e (otd 2096)	*	2145
Ohio Oil, 7, ne se sw 36-22n-8e	35	463
Midco Oil, 6, nw se sw 17-22n-10e (pb 2043)	60	2048
C. E. Hane et al, 2, se se ne 33-23n-12e	*	1672
Lewis & Texas Co., Claremore 8, nw se se 17-24n-7e	193	2653
Bay Oil, 1, nw nw nw 35-24n-7e....	*	2830
Barnsdall, 6, se ne ne 35-25n-11e (pb 1739)	48	1742
Magnolia, 8, sw sw nw 11-26n-6e....	14	2850
Kewanee O&G, Alfred 4, nw nw ne 26-26n-6e	55	2960
I.T.I.O., 445, sw sw nw 31-27n-12e..	¶2	1132
PONTOTOC COUNTY—		
Skelly, Ingram 4, sw sw nw 23-2n-7e	¶2½ & 6086	3900
Moore, Mack 1-A, sw nw se 28-2n-7e	¶4½ & 1231	3500
Skelly, Park College 19, nw sw ne 28-2n-7e	¶1½ & 4644	3547
Magnolia, Simpson 18, se se ne 29-2n-7e	¶2 & 447	2522
Carter, Richard 24, ne nw se 30-2n-7e	¶5½ & 168	3601
Magnolia, Hardin 12, nw nw ne 30-2n-7e	1439	3837
Phillips, Weldfeldt 1, ne nw nw 2-7n-4e (pb 3419)	*	3892
POTTAWATOMIE COUNTY—		
Derby Pet., Nixon 2, se sw sw 9-7n-4e	*	3000
Amerada, Goodman 3, nw ne ne 5-10n-4e	162	4427
SEMINOLE COUNTY—		
Oklahoma Oil Corp., Gaines 1-A, ne sw sw 20-6n-7e	lcn.	abd.
Sinclair Prairie, Hassman 4, se ne nw 3-8n-5e	40	4134
Amerada et al, Noble 1, se sw se 25-10n-7e	322	3602
Pryor 3, se ne nw 36-10n-7e	¶3½ & 1542	3648
Sinclair Prairie, D. Litka 1, se se nw 33-11n-5e (pb 4460)	47	4664
Gulf, Myrtle 2, sw sw se 26-11n-6e..	470	4137
Texas Co., H. Williams 1, se se sw 25-10n-7e	60	3620
STEPHENS COUNTY—		
Mudge Oil, Wood 44, sw ne nw 26-1s-5w (pb 1056)	4	1062
Woods 46, cnw nw 26-1s-5w	7	6685
Carl Carter, Harley 5, ne se ne 24-2s-4w	7	427
Harley 6, ne ne se ne 24-2s-4w..	16	419

*Failures; †Junked; ¶Million cu. ft. gas.

KANSAS FIELDS

Woodson County production from unidentified sand.

* * *

Silica and Schartz pools apparently linked.

* * *

St. John and Gorham pools are extended.

Wichita.—Two new oil producing areas; extension or linkage of another; increased production in an old well in Chautauqua County and indications of extensive activity in Scott County were items of particular interest in Kansas last week.

A well drilled by Harry Keene and others at NWc SE 19-23s-15e, northwest of the Wiede pool in northern Woodson County, looks to be good for 100 barrels of oil daily from a sand on top of the Mississippi lime, found at 1552 feet. The well found a 100-foot thickness of the sand at that depth, 39 feet of which was saturated with oil before the Mississippi was touched. No water was showing. Information concerning the identity of the sand and further plans of operators at the well was meager.

Barnsdall Oil Company's Hathaway 1, SW NW NW 33-19s-10w, east of the Chase pool, Rice County, topped Siliceous lime at 3277 feet, and has apparently found the connecting link between the Silica and Schartz pools. It filled 1800 feet with oil at 3284 feet in the lime. A potential test was started April 28, but the hole mudded up after the first 9 hours. It put 284 barrels of oil in the tanks during the test, and made a top flow of 66 barrels in one hour. It will be cleaned out and given another test. Observers state the well looks good for 1500 barrels of oil.

An old Oswego lime well in Chautauqua County, Griffin & Bell'sOliver 8, SW SE SW 1-32s-10e, was cleaned out and deepened last week, and looks like a producer. It originally was drilled to 1600 feet in Oswego lime and was beginning to go dry. When drilled to the Siliceous lime between 2291 and 2294 feet, the hole filled with oil and slopped over the top of the casing. It appears to be good for 2000 barrels of oil daily.

Ryan Consolidated Oil Company's Couch 1, SWc SE 13-30s-5e, west of Atlanta in Cowley County, apparently opened a new oil area last week, flowing from the Bartlesville sand at 2842 feet. Tools were lost in the hole when the well was given a 50-quart shot. No estimates of production have been made. The well is four miles south of the Fox-Bush pool of Butler County.

Atlantic Refining Company is preparing to drill several wells in the Shallow Water pool, Scott County. First of the tests is scheduled to be drilled at CNE SE 15-20s-33w, due south of Vaniman 1, CSE NE 15-20s-33w, which was completed January 18, 1935, from the Mississippi lime at 4686 feet. This was the discovery well of the pool, and was completed for an initial production of

KANSAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BARBER COUNTY—		
Barbara Oil, Rodgers 1, ce½ se 23-33s-13w	*	3957
BARTON COUNTY—		
Spencer & Yarnell, Patzner 3, nw ne se 36-17s-11w	¶1¾ & 625	3071
Texas Co., F. Bloomer 8, se se nw 36-17s-11w	1914	3286
Rosesppring et al, Rick 2, se sw sw 1-19s-11w	*	3425
Magnolia, Roetzel 4, sw sw ne 24-20s-11w	1386	3258
BUTLER COUNTY—		
Phillips, Moore 2, se sw se 1-25s-3e	250	2672
COFFEY COUNTY—		
Max Reynolds, Dember 2, ne nw se 6-23s-15e	*	1540
COWLEY COUNTY—		
Lloyd, Frost & Study, Wilson 1, ne ne sw 33-31s-3e	2904	3259
ELK COUNTY—		
Diller O&G, Cochrane 2, nw nw nw 25-31s-10e	50	2283
Wentz et al, Love 1, sw se ne 35-30s-9e	*	2348
ELLIS COUNTY—		
Texas Co., F. A. Bemis "A" 1, ne ne ne 28-11s-17w	2662	3454
British-American, Bemis 5, ne nw sw 22-11s-17w	2471	3426
Bridgeport Kraus 1, ne ne se 21-14s-19w	270	3785
ELLSWORTH COUNTY—		
Gulf, Grizzell 3, sw nw nw 31-17s-10w	1848	3270
HARVEY COUNTY—		
Dickey O.I, Masters 1, ne ne sw 14-23s-2w	*	2961
HASKELL COUNTY—		
Kuhn Bros. et al, Meredith 1, csw 10-30s-33w	¶½	2800
KEARNEY COUNTY—		
Murphy et al, Campbell 1, nw nw sw 32-25s-35w	¶1½	2793
McPHERSON COUNTY—		
Ohio Oil, Decker 11, se ne ne 20-21s-1w	884	3344
RENO COUNTY—		
Carter, Hogan 2, ce½ e½ sw 19-24s-4w	¶1 & 814	3391
Shaffer et al, Tucker 1, nw sw sw 20-24s-4w	375	3389

572 barrels following acidization with 1000 gallons. Stakes are being driven for nearly all of the tests, but it is stated only one at a time will be drilled.

Lario Oil & Gas Company's Morgan 3, CSL SW 23-24s-13w, south of production in the St. John pool of Stafford County, filled 3300 feet with fluid, one third of which was water, after drilling plug at 4131 feet in the Siliceous lime. It was bailed in an effort to exhaust the water, said to be coming from the bottom of the hole. It later was plugged back to 4125 feet in the Siliceous lime and is waiting on cement to set.

St. John Extension

Atlantic Refining Company and Phillips Petroleum Company's McNaughton 1, NW NE NE 27-24s-13w, three-quarters of a mile southwest of production in the St. John pool, swabbed 200 barrels of oil in 5 hours from Siliceous lime after being deepened from 4106 to 4109 feet. The hole filled 3300 feet with oil and the fluid could not be lowered below 700 feet during the swabbing test. Fill-up during the test was at the rate of 20 barrels of oil per hour. A pumping test is scheduled for the near future.

C. L. Price et al's Kraft 1, SW NW SE 10-17s-11w, northwest of production in the Bloomer pool of Barton County, filled only 40 feet with oil after drilling plug at 3236 feet in the Lansing lime. Operators were of the opinion part of the pay was sealed off by cement, and the hole was being cleaned out preparatory to acidizing. The hole had filled 1800 feet with oil before casing was run. Water broke into the hole from behind the casing following acid treatment, making it necessary to recement before more acid could be run.

The same interests' Ehly 1, NEc SE 5-18s-11w, southwest of production in the Bloomer pool, was bailing and preparing to drill plug at 3353 feet in the Siliceous lime. It was at 3390 feet in the lime where a core saturated with oil was recovered.

Vickers Petroleum Company's Liebel 1, SE NE SE 18-18s-11w, to the southwest of Ehly 1, was at 2590 feet after water broke in from behind the casing at 2560 feet.

Yarnell & Spencer's Patzner 4, NEc SE 36-17s-11w, on the western edge of the pool, made 2985 barrels of oil in 23½ hours from Siliceous lime at 3241 feet. It is the largest producer so far completed in the pool.

Patzner 3, west offset to No. 4, was completed for 625 barrels of oil from the Lansing lime at 3072 feet. It is the first Lansing lime well to be completed for commercial production in the area.

Indian Territory Illuminating Oil Company had rig up for Bryant 1, SWc NW 25-20s-11w, an east offset to the discovery producer in the Schrepel sector of the Peter pool in Barton County.

Barnsdall Oil Company's Westphal 3-B, NW NE SE 19-24s-4w, at the north end of the Haven pool of Reno County, flowed 1070 barrels of oil in 16 hours from chat at 3386 feet, following acidization. The well flowed 415 barrels of oil natural in 17 hours prior to the acid treatment.

Sinclair Prairie Oil Company's Kaufman 2, SEc SW 19-24s-4w, west offset to the company's Kaufman 1, recently completed for 3522 barrels of oil from the chat, was preparing to drill in with rotary. The hole was at 3393 feet in the formation.

Twin Drilling Company's Doughty 1, CSW SW 15-8s-19w, in the Webster area of Rooks County, encountered water in the conglomerate at 3490 feet after being deepened from Lansing lime where it was completed for 300 barrels of oil in 1934. The well was drilled deeper when production began falling off from the first formation.

Sinclair Prairie Oil Company's Romine 1, SWc 7-11s-16w, a northeast diagonal offset to the discovery and only producer in the Cress pool of Ellis County, topped the Siliceous lime at 3301 feet and drilled to 3303 feet, recovering a core saturated with oil at that depth. Casing was being run preparatory to drilling in with standard tools.

Gulf Oil Corporation's Cress 1, SEc 12-11s-17w, a north offset to the discovery well, was drilling below 2150 feet.

Republic Natural Gas Company made location for Romine 1, NWc 18-11s-16w, as an east offset to the discovery well. It is also a south offset to the Sinclair Prairie test.

Barbara Oil Company's Rodgers 1, CE½ SE 23-33s-13w, southwest of Medicine Lodge in Barber County, was dry at 4957 feet in the Wilcox sand. The dry hole is ¼-mile southwest of gas production in the Medicine Lodge pool, and 1¼ miles southeast of the discovery and only producer in that area, recently completed for 441 barrels of oil from the Viola lime.

Krueger Oil & Refining Company's Rathburn 1, SEc NW SW 14-9s-16w, ¾-mile southwest of production in the old Laton pool of Rooks County, was acidized at 3415 feet in the Oswald lime, and was rated good for about 100 barrels of oil daily. The well originally was completed for about 25 barrels daily in 1924.

Shell Petroleum Corporation's Smith 1, NW NE SW 31-13s-14w, ¾-mile south of production in the South Atherton pool, Russell County, showed 60 feet of rotary mud in a survey taken at 3348 feet in Siliceous lime. Top of the formation was found at 3328 feet and 5-inch casing was cemented at 3329 feet.

Gorham Extended

Central Petroleum Company's Roubach 1, NEc 15-14s-15w, extended production two locations south in the Gorham pool of Russell County last week, filling 2500 feet with oil from the Gorham sand at 3262 feet.

Lauck & Moncrief et al's Krehbiel 1, SEc SW 27-21s-1w, 3½ miles west of production in the Graber pool of McPherson County, topped the chat at 3047 feet and was making hole below 3054 feet. The well, which will be carried to the Hunton lime, was reported as logging favorably. Wells in the Graber pool produce from the Hunton lime.

Best Well in Ellis County

Deep Rock Oil Corporation's Baumer 1, NWc 27-11s-17w, in the Bemis pool of Ellis County, increased its flow on a retake potential from 2627 to 3055 barrels of oil, and is officially stated to be the largest producer drilled in the county.

Aylward et al's Meis 1, NWc 6-12s-17w, ½-mile north of the Shutts pool, topped Siliceous lime at 3681 feet and at 3690 feet made a 24-hour potential of 1111 barrels of oil. The well pumped 800 barrels of oil during the first 18 hours of the test.

Murphy et al's Weisner 1, SEc SW 12-14s-19w, southwest of Hays in Ellis County, made 8 bailers of water per hour from 3862 feet in Siliceous lime, and was shut down. Wakefield et al's Putnam Mortgage Company 1, SEc NW 32-15s-17w, near the town of Pfeiffer, had a hole full of water from between 3467 and 3472 feet in Siliceous lime and is shut down for orders.

Wichita.—Kansas first reports dropped to 70 last week, 10 less than the previous week. There were 48 completions compared with the 70 for the week before, and of these, 33 were oil wells, producing 45,899 barrels of oil. Two gas wells made 2,000,000 cubic feet of gas, and there were 11 dry holes and 2 abandoned locations. Russell County led in locations with 14; Rice was second with 12 and Butler County had 8. Barton, Ellsworth and Reno Counties had 5 each, while Cowley County had 4. There were 3 each for McPherson and Sumner; 2 each for Chautauqua, Grant, and Harvey Counties. Barber, Coffey, Ellis, Trego and Woodson Counties had 1 each.

Company, Well and Location	Init. Prod. Bbls.	Depth
Shell, Reece 5, sw sw sw 11-26s-9w	3999	4140
Adkins 1, nc nw se 15-26s-9w	2331	4146
RICE COUNTY—		
Shell et al, Tobias 3, sw sw ne 6-19s-9w	1696	3240
Ohio Oil, B. G. Proffitt 9, ne ne nw 5-20s-9w	678	3228
Stanolind, Specht 14, sw ne se 6-20s-10w	1696	3325
Aylward, Johnson 5, nw sw ne 17-21s-7w	lcn.	abd.
Derby Oil, Thode 1, ne se se 8-21s-7w	1565	3410
ROOKS COUNTY—		
Snowden & McSweeney, Hindman 1, ce½ nw 35-7s-17w	20	3118
¶Twin Drlg., Doughty 1, sw sw sw 15-8s-19w	*	3490
RUSSELL COUNTY—		
Empire, Atherton 1, cw½ w½ se 25-13s-15w	*	3358
Skelly, Dumler 3, nw sw ne 1-14s-15w	686	3313
Transwestern Oil, Helen Polcyn 6, ne se se 10-14s-15w	818	3263
William Polcyn 3, ne nw sw 11-14s-15w	1077	3271
National Ref, Reinhardt "A" 2, se ne nw 36-14s-15w	1486	3204
Coralena Oil, C. Sellens 3, nw sw nw 29-15s-13w	1639	3270
W. I. Southern, Inc., Sellens Heirs 7, se se sw 29-15s-13w	2463	3330
Sellens Heirs "A" 8, nw ne sw 30-15s-13w	2570	3277
Phillips, Hoffman 6, sw nw se 31-15s-13w	2552	3305
Gulf, Michaelis 2, ne ne sw 32-15s-13w	1511	3305
STAFFORD COUNTY—		
Stanolind, Spangenberg 1, sw sw sw 29-22s-11w	1553	3580
Komauk 5, se se se 30-22s-11w (otd 3580)	990	3585
¶Empire, O'Conner 1, ne ne ne 17-24s-15w	*	4133
SUMNER COUNTY—		
Shawver et al, Bryan 1, cw¼ w½ sw 36-30s-2w	*	3830
Husted et al, Evers 1, se se ne 27-31s-2e	*	519
WOODSON COUNTY—		
Reed et al, Piper 1, nw nw se 19-23s-15e	35	1575
Sanderson et al, Mason 2, sw se nw 14-25s-13e	lcn.	abd.
Sheedy et al, Lee 5, se sw ne 28-25s-14e	75	1477
Hyde et al, Murphy 1, se ne ne 30-25s-14e	*	1500

*Failures; †Junked; ¶Million cu. ft. gas.

NORTH AND WEST TEXAS

Work expanding in north end of Permian Basin.

* * *

Sand Hills lease attracts high cash purchase offer.

* * *

Waddell well has initial of 925 barrels per hour.

Midland, Texas.—Exploratory operations in the north portion of the Permian Basin are expanding at a steady pace. Companies and operators taking part in this major program are not disturbed over the absence of pipe line facilities. A few more flowing completions in the 5 isolated counties that have contributed new pools will attract one or more outlets, as the crude purchasers in West Texas and Southeastern New Mexico are eager to connect with potential oil reserves. New wildcat projects announced the past week shared interest with the development of a larger flow from the lone producer in Hockley County; launching of two offset tests in the Bennett area, Yoakum County; and repeated gas blowouts in the offset to the discovery oil well of the Seminole structure, Gaines County.

The Texas Company's Bob Slaughter 1, southwestern Hockley County, increased its oil flow to 502 barrels initial, with a decline in the gas/oil ratio, after using 5000 gallons of acid in dolomite at 4980-5023 feet. This well flowed 333 barrels initial after plugging back from water at 5030 feet to 5023 feet. On the latter gauge the gas/oil ratio was 1360/1, and after acid was lowered to 736/1. The oil is contaminated with sulphur, and is about 30.6 gravity. Market outlet is restricted to tank truck sales, and the company will not produce the well for the time being. No new locations have been authorized. The Texas Company will start work shortly on its contracted drilling obligation on the Slaughter ranch in Cochran County.

Gas in Seminole Well

Shell Petroleum Corporation's M. J. Mann 1, east offset to the discovery well of the Seminole area and probable key well to the launching of a drilling program by nearby lease owners, experienced repeated gas blowouts while attempting to resume drilling in lime at 4901 feet, or about 75 feet above the oil horizon. High pressure gas production is not found above the oil zone in other areas in the north portion of the basin. Shell Petroleum Corporation has delayed running 7-inch oil string in order to try to exclude all of the dry gas zone overlying the saturated lime. Drilling was due to be resumed late last week on Amon G. Carter and Continental Oil Company's Wasson 1, wildcat near the north line of Gaines County, after cementing 7-inch pipe at 3092 feet. Air pockets and gas caused the hole to cave and hindered the landing of pipe on bottom.

Contracts for the immediate drilling of tests on offset locations and a short distance northwest of production in the Bennett area, Yoakum County, have been awarded. Texas Pacific Coal & Oil Company, original owner of the discovery block, is starting Mrs. Ruth Bennett 2, located 440 feet out of the northwest corner of Section 678, Block D, and Honolulu Oil Corporation et al's Bennett 1 has been located 330 feet out of the northeast corner of Section 677, and on an 80-acre lease. Diagonal spacing will be followed by operators so as to result in 1 well to 20 acres. Production of the two flowing wells on the Bennett land is hauled by trucks to Means field, where deliveries are made to Humble Pipe Line Company. Lou G. Stogner et al are negotiating contract for a test to be drilled in Section 606, Block D, on short-term acreage held by Ohio Oil Company. Moore Brothers Corporation, Midland, are attempting to finance a wildcat about 4 miles southwest of the above proposed test through the sale of acreage and support from nearby lease owners.

Bailey County is growing in popularity with wildcat operators. Geo. Etz, Carlsbad, New Mexico, and associates have awarded contract for the drilling of a 5200-foot test near center of Labor 66, League 182, Floyd County School Lands, and on a block of 17,500 acres that was acquired for a bonus of $2 per acre cash. The block embraces all of the Floyd school lands, and no previous exploration work has been undertaken in the general area. Drilling project announced last week as being planned by McCelvey Brothers, Temple, Texas, in the southwest corner of Bailey County, has been assigned to J. O. Whittington, discoverer of oil production in the Shamrock field, Texas Panhandle, and more recently engaged with development of leases in the East Texas field. Whittington et al paid a cash bonus of $3.50 per acre for lease on 1050 acres, and is obligated to drill a 5500-foot test in League 161 or 162.

R. L. Foree et al have contracted for 11,000 acres out of the C. O. Edwards 32,000-acre ranch, located northwest of Tahoka and in central Lynn County, for a cash bonus of $1 per acre, and the starting of a test prior to July 1.

Ray Albaugh et al's John Robinson 1, discovery pumper for Dawson County, cleaned out with tools to 5038 feet, and shot with 100 quarts nitro at 4998-5038 feet. The well filled 1000 feet with oil and is reported to be showing a little water. When originally completed last December the well pumped 4½ barrels of 33 gravity oil per hour. Ernest L. Wilson et al's Texas Land & Mortgage Company 1, located 1½ miles south by east of Robinson 1, was drilling near the 2200-foot level late last week. In the Cedar Lake area, near the Gaines-Dawson County line, Stanolind Oil & Gas Company is reported to be making preparations to drill its geophysical prospect.

Set New Mark in Cash Offers for Lease

San Angelo.—Undeveloped lease values in West Texas touched a new high mark the past week when a few majors began bidding for the drilling rights on a single 80-acre lease available for purchase near the first prolific oil producer from the Ordovician lime section in the Sand Hills field, Crane County. Prices soared on the strength of Gulf Oil Corporation's W. N. Waddell et al 4, C SW NE Section 4, Block B-27, registering a potential of 1885 barrels of 44.9 gravity sweet oil and 2,500,000 feet of gas natural through open 2½-inch tubing with packer set at 5760 feet. The well is producing from Ellenberger limestone at 6004-6014 feet, and is the third deep producer for the field although the previous two are lower structurally and made small wells from sand zone in the Simpson series, with water in the Ellenberger. The new completion averaged 78 barrels per hour during the last 4 hours of the 6-hour potential gauge. Working pressure on tubing was 160 pounds, and back pressure on the closed casing varied from 960 pounds at the start to 440 pounds at the conclusion of the gauge.

Bids exceeded $3000 per acre, including half cash, for lease on Truett Cranfill and Penn Oil Company's 80-acre lease, situated across a 40-acre unit to the east of the Ellenberger lime well. Several majors are seeking the tract for immediate development, and have also offered substantial cash considerations and 2 free wells for controlling interest. Oil produced from the new well is reported to carry an exceptionally valuable lube oil content, and the sweet gas is needed for fuel. Gas produced with oil from Permian lime wells near the 4400-foot level in this field is contaminated with sulphur.

Gulf Oil Corporation has moved its company-operated rotary to drill W. N. Waddell et al 5, C NW SE Section 4, a south offset to the new producer, and will drill to the Ellenberger. Several locations are due to be announced shortly by the 4 majors that own leases to the east in Section 3, as the base lease was due to expire March 6, 1936, but a small well was drilled on a unit plan and is the only protection the companies have against lease cancellation.

Humble Oil & Refining Company's J. B. Tubb 9, NWc Section 10, extended production in the Permian zone a short distance north with a potential rating of 457 barrels after nitro shot and acid in lime at 4290-4437 feet. Gulf Oil Corporation's W. N. Waddell et al 3, SWc

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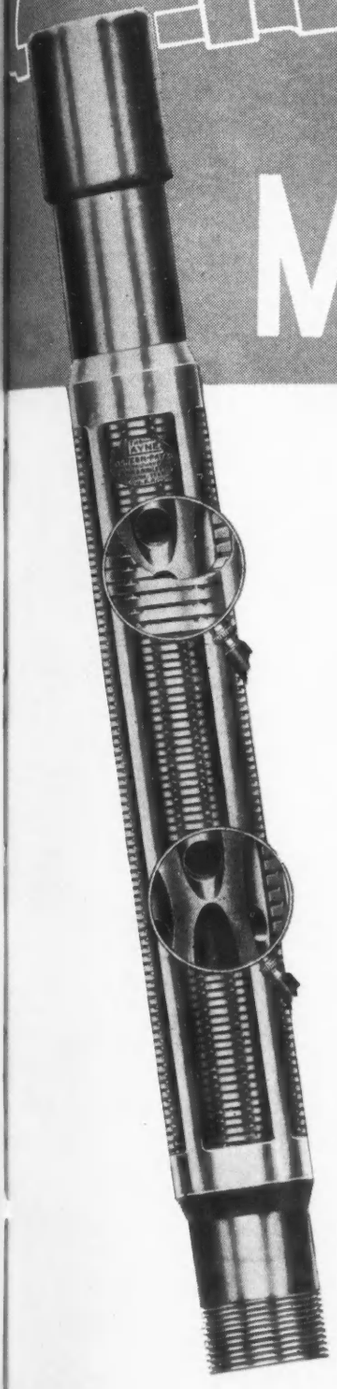

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Section 21, slightly more than a mile north of the above completion, is checking about level structurally, and is straight reaming after pulling 7-inch pipe, with the hole bottomed at 4051 feet, or 1466 feet sub-sea. It will be deepened to the Ordovician if not productive in the Permian.

Waddell Record Initial

Magnolia Petroleum Company's W. P. Edwards 9, NE SW SW Section 2, an inside location for the Waddell field, northern Crane County, promises to establish a new potential mark for the area through having flowed 925 barrels of 45 gravity oil during the first hour after using 5000 gallons of acid in soft lime section at 3500-3550 feet. Prior to acid treatment the well flowed 150 barrels per hour natural. Rig has been skidded one location north to drill Edwards 10. Gulf Oil Corporation's Waddell 17 used acid at 3517 feet, and flowed 578 barrels oil the first hour and 516 barrels the second hour.

Sinclair Prairie Oil Company's University 1, Lease 24, NE NE SW Section 13, Block 35, Crane County, semi-wildcat between the Waddell and Judkins fields, responded to treatment with 5000 gallons of acid in dolomite at 3533-3615 feet, with an elevation of 2797 feet, flowed 246 barrels oil in 16 hours. It is credited with being a southeast extension to the Judkins area.

Natural flow of 79 barrels of 21 gravity black asphalt-base crude was produced in 24 hours by Magnolia Petroleum Company's Geo. Sealy 1, SE SE NE Section 55, Block F, semi-wildcat in northern Ward County, from lime at 2994-3010 feet. The hole filled 2000 feet with sulphur water after the initial gauge, and will be plugged back. Location is ½-mile west of a small pumper completed by the company in November, 1930, at 3036-65 feet. The latter produces 25 gravity oil. The company holds lease on a solid block of 24 sections of the Sealy ranch.

265 Texas Permits

Austin.—The Texas Railroad Commission approved last week permits for drilling 265 new wells in Texas, 152 less than were allowed the week before.

There were 59 locations from West Texas, including 13 in Ector County and 13 in Ward County. The Panhandle reported 31 permits, with 14 in Hutchinson County.

Southwest Texas listed 52 new permits, with 11 in Duval County. There were 32 from the Gulf Coast area.

North Texas operators reported 38 locations, with 21 in Archer County. There were 27 from West Central Texas, with 13 in Jones County.

East Central Texas listed 16 locations, and there were 10 from the East Texas field, including 8 in Gregg County, 1 in Rusk County, and 1 in Upshur County.

TEXAS PANHANDLE
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
GRAY COUNTY—		
Empire O&R Co., I. B. Hughey 4-B	567	3295
J. F. Meers 1-C	561	3240
Shell Pet. Corp. (was Texwell Oil Corp.), Hughey-Gulf 2	743	3256
Sinclair Prairie, Alex Smith 4	243	3270
Stanolind, A. J. Culler 5	269	3281
HUTCHINSON COUNTY—		
Drilling & Exploration, Inc., W. B. Haile 10	331	3075
E. E. Watkins 10	645	2942
International Pet. Corp., Tom Lewis 31	589	3054
Owl Oil Corp., J. W. Moore 6	659	3086
Phillips Pet. Co., M. Armstrong 1	¶6½	3051
Skelly Oil Co.-Godfrey L. Cabot & Co. W. E. Heering 1-B	¶18.6	2870
Stanolind, R. C. Ware 10-C	430	3072
MOORE COUNTY—		
Continental Oil Co., Stanley Marsh 1	¶80.6	3116

*Failures; †Junked; ¶Million cu. ft. gas.

NORTH TEXAS
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ARCHER COUNTY—		
C. E. Beavers et al, J. R. Garvey 1, sec 1856	*	865
L. T. Burns et al, C. L. Abercrombie 1-A, lot 36	*	1350
W. D. Pace 7, blk 163	*	1404
Consolidated Oil Co.-Pet. Prod. Co., Portwood 28-D, sec 1587	28	1391
Fain-McGaha Oil Corp., J. W. Hasson 1, blk 23	*	775
Golding & Cochran, H. E. Brown 16	75	1175
B. R. Jeske 3-B, sec 6	100	1190
Nancy McChesney et al, G. M. Benson 2, sec 1829	40	844
Petroleum Producers Co., L. F. Wilson 1-H, sec 84	*	1618
J. G. Steele et al, Mrs. E. F. Watts 1, sec 2417	*	1402
The Texas Co., T. B. Wilson 1-B, sec 2	*	1701
CLAY COUNTY—		
Bridwell Oil Co., Saner-Lomax 8	*	304
J. M. Seaberry et al, Mrs. T. P. Simmons 1	*	600
COOKE COUNTY—		
Petroleum Producers Co., Andress 10	*	1400
Seitz-Comegys & Seitz, J. W. Mount 1	48	1490
DENTON COUNTY—		
A. A. Lander, Inc., E. W. Forrester 1	66	1652
JACK COUNTY—		
Adams & Riley et al, A. B. Kuykendall 1	174	3039
Beard & John B. Collier, Jane Wiggins 1	332	2958
Cato Oil Co., J. A. Raley 4-B	675	3101
Deep Oil Dev. Co., Bryson Townsite 1	147	3031
Edwards, Knowles & Crespi, Simpson Bros. 3	150	3000
C. L. Gannaway et al, J. W. Maxey 1, sec 1	*	520
Gillespie & Perren, L. J. Hester 2	161	2974
Thos. D. Humphrey, M. B. Cook 5	238	2990
Taubert & McKee, R. H. Eatherly 3	146	3035
White & Duncan, C. Webb 1	*	652
MONTAGUE COUNTY—		
The Texas Co., Cunningham 15-A	52	949
THROCKMORTON COUNTY—		
Canyon O&G Co., D. R. Huckabee 1, sec 279	*	387
WICHITA COUNTY—		
E. G. Boardman et al, Chas. Van Loh 1	*	1700
Bridwell Oil Co., W. B. Honaker 6	25	1020
Continental Oil Co., M. J. Powell 35	6	1239
G. W. Cooper et al, Waggoner Est. 18-C	254	1636
Fresno Oil Co., L. F. Ramming 26	10	1711
King Oil Co., M. M. Stone 4-A	250	1647
Waggoner Est. 3-R	225	1640
E. B. Madden et al, Fee 15-A	4	575
Floyd Pace et al, Foster-Allen 12, sec 1	*	488
WILBARGER COUNTY—		
The Texas Co., Waggoner Est. 12-D, sec 43	21	2404
YOUNG COUNTY—		
Duncan-Holt & Marchman, Benson 20, sec 1391	100	906
Hinson & Tidwell, S. D. Thompson 3, sec 427	440	3918
Nash & Windfohr, M. K. Graham 24, sec 3410	*	3844
Perkins & Myers, A. J. White 1, sec 213	*	826
Rathke Oil Co., C. E. Graham 14, sec 3401	*	914
C. D. Thornton et al, F. C. Dailey 2	*	540
Worth Oil Co., F. M. Cullers 20, blk 19	3	543

*Failures; †Junked; ¶Million cu. ft. gas.

WEST TEXAS
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ANDREWS COUNTY (Means Field)—		
Humble, J. S. Means 18	1022	4526
CRANE COUNTY (Sand Hills Field)—		
Gulf Oil Corp., W. N. Waddell et al 4	1885	6014
Humble, J. B. Tubb 9	457	4437
CRANE COUNTY (McCamey Field)—		
Superior Oil Co., (Cal.), E. S. Hughes 3	648	2274
ECTOR COUNTY (North Cowden Field)—		
Atlantic Ref. Co., B. H. Blakeney 1-C	¶4 & 38	4250
Landreth Oil Corp., TP Land Trust 3-B	320	4206
Stanolind, J. M. Cowden 43	951	4308
Sun Oil Co., L. E. Wight 4-B	388	4194
ECTOR COUNTY (Goldsmith Field)—		
Atlantic Ref. Co., TP Land Trust 1-B	276	4265
Bond Oil Corp.-L. C. Harrison, TP Land Trust 1	928	4265
Gulf Oil Corp., C. A. Goldsmith 13	240	4205
ECTOR COUNTY (Judkins Field)—		
Sinclair Prairie, University 2, Lse. 60	116	3686
FISHER COUNTY—		
Forest Dev. Co., J. A. Scott 1	*	4492
TOM GREEN COUNTY—		
F. E. & Roy Webb, J. F. Schrievner 1	*	664
HOCKLEY COUNTY—		
The Texas Co. et al, Bob Slaughter 1	502	5030
HOWARD COUNTY—		
R. J. Wallace et al, A. M. Bell 3	200	2807
JONES COUNTY—		
Bridwell Oil Co.-L. Fikes, Jennings 8	210	1930
Fain-McGaha Oil Corp., Claude Lewis 1-A	82	1935
R. B. Farris, L. Fikes, Ungren & Frazier, Guitar 6	200	2009
Guitar 7	244	2004
Lewis Prod. Co., H. Sayles 2	18	1967
W. H. Peckham, Yates & West, Denton Nat'l Bank 1	†	1170
Petroleum Producers Co., H. C. Harvey 1	67	1665
Sandy Ridge Oil Corp., Jones-Peterson 1	113	1945
E. A. Ungren-A. J. Frazier, Sellers 3	*	2050
PECOS COUNTY (Wildcat)—		
Walter & Geo. T. Abell, White-Baker 1	*	2063
UPTON COUNTY (McKamey Field)—		
British-American O. P. Co., J. W. Robbins 2	1018	2294
J. W. Robbins 3	936	2247
J. W. Robbins 4	964	2247
Continental Oil Co., A. A. Reese 6	733	2451
A. R. Eppenauer et al, J. F. Lane-Pure 2-B	353	2190
The Texas Co., R. King 28	147	2510
WARD COUNTY—		
FHE Oil Co., Green 4	567	2461
L. Richter 3-B	2049	2948
L. Richter 6-C	2977	2961
Gulf Oil Corp., Hutchings 81	212	2786
Humble, L. Richter 14	663	2612
University 12-F	1071	2762
Prince Bros.' Drlg. Co., J. F. York 3	220	2530
Standard Oil Co. (Texas), I. B. McFarland 5-37	2339	2644
I. B. McFarland 12-37	1711	2680
Tide Water Associated, Johnson 18	3715	2695
Johnson 19	4536	2700
WINKLER COUNTY (Henderson Field)—		
Atlantic Ref. Co., F. Leck 4-D	7000	3060
Gen'l Crude Oil Co., J. W. Hess 1	2500	3077
W. K. Royalty Co., J. B. Walton-Humble 3-A	7500	3059
WINKLER COUNTY (Kermit-Sayre Field)—		
Amerada Pet. Corp., Cowden 2-A	436	3030
Atlantic Ref. Co.-J. C. Maxwell, J. C. Lovett 6	858	3150
Humble, N. R. Colby 15-A	860	3025
Sayre Oil Co., J. F. Howe 8-C	1041	2994
Shell, Ida Hendrick 2-M	332	3096
Sinclair Prairie, H. E. Cummins 3-C	319	3026
TP Coal & Oil Co.-E. M. Wahlenmaier, Duval Roy. Co. 1	508	3114
WINKLER COUNTY (Scarborough Field)—		
Richardson Oils, Inc., Scarborough-Shell 2	35	2978

*Failures; †Junked; ¶Million cu. ft. gas.

EAST TEXAS

Value of Opelika oil strike still to be determined.

* * *

Long Lake Trinity test passing up gas showings.

Tyler.—Value of the Opelika structure, Henderson County, as an oil production source from the Trinity horizon was only partially determined the past week when the flow of oil and rotary mud was curtailed by the clogging of the circulation outlets on a rock bit attached to the 4½-inch drill pipe, which was cemented 35 feet off bottom to forestall a wild producer, or a junked hole. This unusual method of trying to complete a well was forced upon Tide Water Associated Oil Company, Seaboard Oil Corporation and Humble Oil & Refining Company when McElreath-Suggett 1, located 1½ miles northwest of Opelika, due to a threatened blowout from about 10 feet of soft lime topped at 7185 feet. Drill pipe hung up on a boulder, or was frozen by cavings when raised 35 feet immediately after drilling into the unexpected oil horizon, which was found below the first anhydrite stringer and presumably above the massive anhydrite and lower Glen Rose lime series. Drill pipe had to be cemented into position and substituted for casing as a protection measure.

Initial production test given the Opelika wildcat on April 27 consisted of a steady flow of drilling fluid and showings of oil, and on the following day the stream, ranging from 5 to 8 barrels per hour, cleared sufficiently to place about 50 barrels of net oil into tanks. This production was contaminated with manufactured weighting fluids, which were hardened by heat found at the 7195-foot level, and reached the surface in lumps.

Owners plan to run a string of 1¾-inch tubing inside the drill pipe to attempt to wash the hole with the aid of a battery of high pressure pumps. Another plan calls for the milling of a larger opening through the rock bit, using tubing for drill pipe. Gravity of the oil produced by the Opelika discovery increased to above 37 degrees, while the volume of gas is estimated at only 100,000 feet daily. Regardless of the final outcome of the original Trinity test, a number of additional wells will be drilled this year in the area.

Considering the circumstances, the owners were fortunate in attaining a successful cement job on the drill pipe without sealing the small openings in the rock bit. The oil zone was encountered while using 4½-inch flush-joint drill pipe, and cutting a 9-inch hole. Wall thickness of the drill pipe is .337 inch, with an internal diameter of 3.826 inches. The annular space behind the drill pipe opposite the uncased hole and that fortified with 13⅜-inch pipe cemented at 1772 feet was carefully calculated before attempting to run 600 sacks of cement to secure the drill pipe against a blowout. The mixed cement was pumped through the drill pipe, and the displaced rotary fluid was routed to the surface via the rock bit and behind the drill pipe to the surface. Heavy mud followed the batch of cement down the drill pipe, and by accurate calculation the cement was forced behind the drill pipe and prevented from blocking the openings in the bit. Pressure was applied to the casing and drill pipe until the cement hardened.

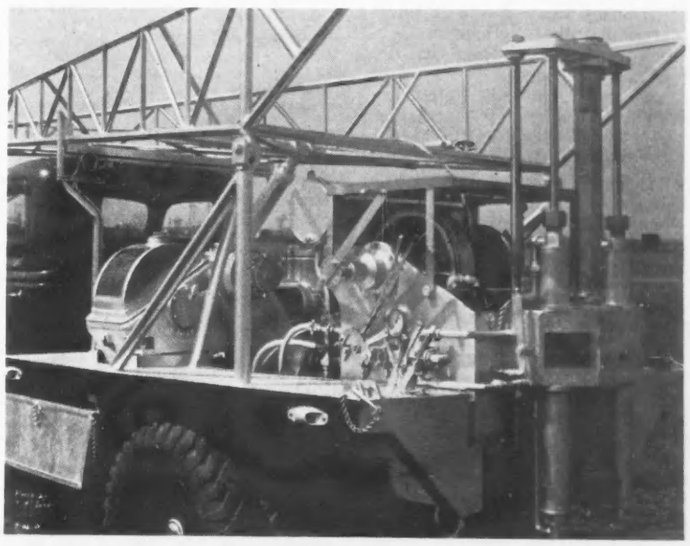
Surface connections were installed late p. m. April 26 to proceed with completion of the well, and some difficulty was experienced in holding the flow in check from the drill pipe, thereby giving assurance that the bit was not clogged. Operations were discontinued for the night, and on the next day the well began flowing mud without being agitated, or swabbed.

Pass Up Gas at Long Lake

Gas showings logged at intervals by Tide Water Associated Oil Company and Seaboard Oil Corporation's Monnig 7, first Trinity test for the Long Lake field, Anderson County, have been passed up to proceed to the lower section of the second Glen Rose lime series. Rotary crew was coring below 9000 feet late last week, or within 85 feet of the depth record for the Woodbine basin established by the partnership's first Trinity producer in the Cayuga field. Monnig 7 will run pipe through the gas zones, then gun-perforate and test at intervals while plugging back from the water level due to be penetrated before drilling is discontinued.

Tom Hunter, American-Liberty Oil Company et al's Gage 1, located on the Blackfoot structure, Anderson County, was drilling in broken anhydrite and shale formation at 8870 feet, and in all probabilities is entering the lower Glen Rose zone at this level.

J. Edward Mills et al's Sam Gruchol-ski 1, Falls County wildcat, 5 miles southwest of Kosse, has cemented 5-3/16-inch pipe at 5374 feet to test oolitic lime zone found in the upper section of the second Glen Rose after drilling to 5526 feet. Slow-setting ce-



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ment was used, as the temperature of the bottom of the hole is about 184 degrees. Owners plan to let the cement set for 10 days.

Contract for 6500-foot Panola County test.

Shreveport.—Glassell and Glassell last week announced location for Pierce and Chesbro, Trustees 1, located 660 feet south and east NEc Julia Soape Survey, Panola County, Texas, 2½ miles northwest of the same operator's two small gassers in the Glen Rose. Contract for the new test is 6500 feet.

Five and three-sixteenths inch casing is being shipped to location of H. A. Stebbinger and associates' Pickering Lumber Company 2, A. Hanson Survey, Shelby County, Texas, which has total depth of 5099 feet. This test in which seven-inch casing had previously been cemented at 4952 feet, had four feet of gas-distillate saturation between 5070 and 5084 feet and in a porous lime core from 5084 to 5099 feet had some oil saturation. Elevation is 205 feet.

In Cass County near Douglassville, J. G. Puterbaugh's J. J. Dooley 1, Calloway Davis Survey, last week was drilling in the Paluxy at 4452 feet after logging base of Georgetown lime at 4401 feet; elevation is 246 feet.

In Harrison County, Arkansas Fuel Oil Company has been taking some leases around the James P. McCarthy and adjacent surveys.

In Marion County Continental Oil Company leased the 100-acre Lawrence tract in the W. W. Ligthfoot Survey. Sun Oil Company took an 87-acre tract in the J. H. Johnson Survey, and 12 miles west of Jefferson, Shell Petroleum Corporation took a 161-acre tract in the Joseph Wimberley Survey.

In Panola County, Amerada Petroleum Corporation has leased over 900 acres recently in the George Glass and adjacent surveys and Gulf Oil Corporation has leased over 3000 acres around the William English and nearby surveys. In Shelby County, near Paxton, Amerada has been leasing in the John Smith and J. B. Ferguson Surveys.

Long Lake Hearing

Austin.—Gas-oil ratios in the Long Lake field will be discussed at the statewide proration hearing in May. This announcement was made by the Texas Railroad Commission last week.

At the last statewide hearing, Tide Water Associated Oil Company officials protested against further tests of some wells, complaining that the result of the test was the production of more gas than the pipe line outlet of the field could absorb.

Gulf Coast Field Hearings

Austin.—Hearings on the Dickinson, Gillock and Diadem fields in Galveston County have been scheduled by the Texas Railroad Commission for May 7 at Austin.

Uniform spacing rules for the three fields are sought. At present, there is a 10-acre spacing regulation at Dickinson, while wells are drilled on 20-acre units. In the Gillock field, drilling is on 10-acre units.

EAST TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
JOINER AREA—		
W. H. Gant-Garvin-Wegener, J. N. Hale 14 (158.64-ac)	500	3544
Gulf Oil Corp., E. E. Thrash 13 (83.56-ac)	8300	3762
Magnolia, Dan Helly 8 (55-ac)	250	3655
Maryland Corp., M. M. Cross-Ohio 5 (63.43-ac)	2000	3692
C. L. McMahon et al, A. P. Finney 5 (25-ac)	3600	3670
M. H. McMurrey, Tr., G. A. Turner 27 (83-ac)	2400	3821
Ohio Oil Co., J. M. Price 9 (56.26-ac)	3000	3674
Tide Water Associated, Ras Pool 13 (65-ac)	6800	3753
Wheless Oil Corp., H. J. Patterson 16 (172.64-ac)	250	3738
J. H. Woods et al, Dan Dickerson 2-A	120	3590
Wynne Drlg. Co., N. Green 2 (4-ac)	7000	3828
KILGORE AREA—		
J. S. Abercrombie-Harrison Oil Co., Brightwell 4-B (15-ac)	9300	3662
Barnsdall Oil Co., D. Ladd Smith 2 (5-ac)	8500	3559
Gen'l American Oil Co., Williams 21-B (112-ac)	700	3602
Gulf, G. W. Culver 32 (209.01-ac)	6500	3546
Clyde H. Hall et al, J. C. Johnston 1 (1-ac)	8200	3640
Humble, B. J. Bagwell 6 (40.7-ac)	8800	3700
J. H. Silvey 19-A (142.85-ac)	9200	3681
R. F. Morgan et al, G. Benson 3 (47-ac)	2000	3657
Mullendore & Berry, W. W. Elder 5 (20.45-ac)	9200	3595
Alex B. Ryan et al, Jessie Spear 2 (82/100-ac)	5500	3570
Shell, W. W. Elder 38 (196.05-ac)	9500	3583
W. W. Elder 40 (196.05-ac)	8800	3569
Smith-Bohlssen Oil Co., M. R. Terrell 6 (67½-ac)	288	3691
The Texas Co., W. Davis 11 (64-ac)	9100	3603
Sam K. Vierson-Kingwood Oil Co., G. Muckelroy 10 (30-ac)	9200	3542
LONGVIEW AREA—		
W. D. Ambrose et al, Geo. Jones 5 (12-ac)	9600	3655
Geo. Jones 6 (12-ac)	9500	3650
Arkansas F. O. Co., McKinley Bros. 4-D (23.33-ac)	8000	3596
Atlantic Ref. Co., H. W. Moyers 20 (128-ac)	9000	3700
Barnett Pet. Corp., J. N. Tuttle 5-A (40-ac)	480	3771
Barnsdall Oil Co.-Sun Oil Co., Bingham 18 (99.56-ac)	9000	3517
Danciger O&R, Inc., D. Bruner 1 (40-ac)	480	3818
Dean Bros. et al, O. M. Victory 8 (30-ac)	600	3586
W. M. Day et al, Victory 4 (20-ac)	1500	3650
Gen'l Crude Oil Co., G. E. McGrede 3 (16-ac)	9000	3631
Gulf, A. V. Bacle 14 (69¾-ac)	7800	3642
Humble, W. C. Mackey 27 (198½-ac)	2500	3604
Kewanee O&G Co., Fee 27 (168.77-ac)	10,400	3565
Magnolia, H. Hampton 26 (153.33-ac)	†	2458
Margay Oil Corp., O. M. Victory 13 (87-ac)	5400	3606
Pete H. Pewitt et al, L. A. Williford 4 (133-ac)	100	3685
Reserve Dev. Co.-Magnolia, W. Christian 6 (26.92-ac)	5000	3635
Standard Oil Co. (Kan.), J. W. Fuller 5 (22.23-ac)	2500	3663
Stanolind, S. G. & Maude Smith 11-A (60.15-ac)	7000	3581
S. G. & Maud Smith 11-C (56.65-ac)	7000	3560
Sun Oil Co., J. Hargrove 20 (200-ac)	300	3714
Eve O'Byrne 20 (310-ac)	288	3673
Sutton-Hawkins & B. D .Clower, J. A. Whittaker 1-B (5-ac)	10,000	3521
The Texas Co., T. B. Stinchcomb 8 (87.29-ac)	600	3784
Tide Water Associated, Lake Devernia 43 (270.85-ac)	10,400	3525
CASS COUNTY (Rodessa)—		
Magnolia Pet. Co., George Est. 13, John Collum sur	240	6080
L. A. Haywood 13, Priscilla Evans sur	240	5978
United Prod. Corp., Viola C. Bivins 1, John Collom sur	110	5940
Texas Company, N. A. Rambo 7, Cass County School Land sur	720	6022
ANDERSON COUNTY (Long Lake Field)—		
Byrd & Frost, Inc., I&GN Ry. Co. 5 (89-ac)	¶40	5328
Gaskill Oil Corp., W. V. Keeling 1 (3.47-ac)	¶40	5362
FRANKLIN COUNTY (Talco Field)—		
Byrd & Frost, Inc., Mrs. E. L. Phillips-Gulf 3 (400-ac)	192	4315
HENDERSON COUNTY (Cayuga Field)—		
Cortex Pet. Co., B. H. Wathen 1 (106-ac)	2500	4100
HOPKINS COUNTY (Sulphur Bluff Field)—		
Walter L. Goldston-Big State Oil Corp., H. J. Smith 11 (450-ac)	1200	4510
D. S. Hager, W. P. Luse-Russ Pet. Co., Jeff Worsham 3 (39.82-ac)	1440	4539
F. D. Jones et al, S. B. Pierce-Gulf 5 (150-ac)	1200	4520
TITUS COUNTY (Talco Field)—		
Adams & Lyles, Inc., Pat Davis 9 (41.7-ac)	414	4336
Byrd & Frost, Inc., G. W. Belcher-Gulf 4 (80-ac)	334	4265
R. H. Harper-Gulf 2 (40-ac)	288	4250
GMW Oil Co., W. T. Edwards 1-D (10-ac)	240	4307
Talco Townsite Co. 12-A, lot 1, blk 38	240	4326
W. B. Hinton et al, M. B. Coker 1 (121-ac)	612	4349
Humble, N. B. Davis 1 (102½-ac)	20	4272
A. P. King-Hughes 34 (1053.36-ac)	275	4316
Magnolia, Mary Batson 1 (30-ac)	750	4330
K. Mainard 6 (130¾-ac)	315	4290
Merritt Drlg. Co., Talco Townsite 1, lot 4, blk 29	240	4295
J. S. Rushing et al, C. T. Mitchener 5 (37.2-ac)	547	4386
Tide Water Associated, C. M. Carr 6 (74.37-ac)	240	4330
Al M. Yost et al, W. L. Cain 1, lot 16, blk 16	192	4306
VAN ZANDT COUNTY (Van Field)—		
Pure Oil Co., G. C. Stewart 6 (50-ac)	250	2956
FANNIN COUNTY—		
T. F. Morrow, W. A. Scarborough et al, L. C. Fuller 1 (154.4-ac)	*	3502
WOOD COUNTY—		
B. F. Phillips et al, Mrs. L. E. Pritchett 1 (54-ac)	*	5164

*Failures; †Junked; ¶Million cu. ft. gas.

Properties Change Hands

Dallas, Texas.—Two groups of densely-drilled properties in the East Texas field have been sold by independents for an aggregate of $752,000 cash. These deals involve a comparatively low price consideration on a completed well basis due to the principal leases being situated at low points of the structure.

Ernest L. Wilson, Dallas, and others paid $235,000 cash for Nathan Oil Company's interest in 13 leases, with 33 wells in Gregg and Upshur Counties. Interests acquired by the purchasers amounts to about 19 full interest wells, and the properties have been drilled to an average density of about one well to 2½ acres. Nathan Oil Company is owned by the George L. Culver Estate.

Mar-Tex Oil Company, Houston, entered a bid of $517,000 cash, or at rate of about $24,619 per well, for Big Indian Syndicate's two leases and 21 wells in the Joiner area. Properties have been in receivership, and a Dallas court has sanctioned the above offer, subject to purchaser approving title within 15 days. Big Indian Syndicate drilled 18 producers on its W. R. Wolford 40-acre lease, Smith County, and 3 wells on its A. J. Deason 10.2-acre lease, Rusk County.

In the Gladewater townsite area, L. W. Powell et al recently acquired S. H. Killingsworth et al's Travis lease, with one well, for $11,000 cash and an additional $10,000 due from production.

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SOUTH TEXAS

Well gets deepest production on southwest coast.

* * *

Wildcat strike enhances value of Agua Dulce trend.

* * *

New Bee County field indicated limited in area.

Corpus Christi. — McCampbell field, Aransas County, takes on the appearance of major importance with Buckingham Oil Company and Edwin M. Jones establishing the deepest commercial production along the South Texas part of the Gulf Coast. It is the first oil to be produced below 7000 feet in this section.

McCampbell 2-B, Lots 13 and 14, Block 40, flowed 86 barrels of fluid, about one-fifth salt water, in 24 hours through 9/64-inch choke from 22 perforations at 7085-95 and 7112-22 feet. The oil, which is 54.5 gravity, corrected, is being produced under pressures of 2700 pounds on tubing and 2850 pounds on casing.

While the first producer in this sand is the Buckingham et al test, the discovery of the sand should be credited to Atlantic Refining Company's McCampbell 6-B, Lot 5, Block 41, which cored gas and oil sand at 7076-7113 feet and oil sand 7113-22 feet.

Several Others Drilling For Sand

Several wells drilling near the 6500-foot horizon when the two deeper sands were found immediately were carried ahead. Buckingham Oil Company's McCampbell 6-A, Lot 5, Block 41, drilled to 7853 feet, stuck drill stem and plugged back, setting casing at 7130 feet. Perforations were made at 7114-22 feet and the well is completing. Rutherford Oil Corporation and Clayton Eaton's W. A. Scrivner 1, southeast side of field, was flowing a large amount of gas with a spray of oil from perforations at 7095-7113 feet. The production was through one-eighth inch choke with tubing pressure 2725 pounds and casing pressure 2825 pounds.

Suggest Large Reserve

The new discovery completely changes the appearance of this field. A very thin sand section at 6550 feet in the Marginulina was the main horizon of the field. The new discoveries at 7160-7220 and 7320-7400 feet, two thick sands in the Frio, suggest a very large reserve.

Casing was being run late in the week in Wellington Oil Company and Seaboard Oil Corporation's L. M. Dugger 1, Nueces County wildcat, after a drill stem test at 3912-29 feet developed 575 feet of 26 gravity oil and 100 pounds pressure in 10 minutes through ¼-inch chokes, top and bottom. The well opens a field two miles south of the Clara Driscoll field, which several months ago was opened by the Wellington organization.

These companies jointly hold 1320 acres in the immediate area. In addition, The Texas Company, Sun Oil Company and Magnolia Petroleum Company have holdings in the area. The Wellington concern has considerable royalty.

Another Wildcat Hits

Another strike was contributed at Nueces County during the week, being John Camp Drilling Company's C. Phillip Wardner, Trustee 1, in the southwestern portion of the county. The well was flowing slightly in excess of two barrels of 49.3 gravity oil per hour through ¼-inch choke under pressures of 1410 pounds on tubing and 1825 pounds on casing. It had been drilled to 6715 feet and casing set at 6111 feet, following which perforations were made at 5992-6002 feet in the Frio. The well was reported to be showing a slight bit of water, some reports being wash water and others said that it had a brackish taste. It is in the northeastern portion of Section 12, Stratton subdivision and is three-fourth miles northeast of the Stratton field discovery well, which is a gasser spraying distillate from a 4750-foot sand.

This discovery further enhances the importance of the Agua Dulce trend, including the Agua Dulce, South Agua Dulce and Stratton pools. Until recently, the wells along this trend have been providing only gas and distillate wells, but the newer producers are making crude.

Nueces County's Deepest

The most important wildcat in this particular area is United Production Corporation's Harvey 1, west of the Agua Dulce field, which is drilling below 8865 feet, likely in the Jackson. It is the deepest well ever drilled in Nueces County and some reports are that it will be carried to 10,000 feet or below, possibly going into the Conroe.

Farther southwest in the southernmost portion of Jim Wells County, two deep wells are underway. Magnolia Petroleum Company is rigging up on A. A. Seeligson 7, a 9000-foot project, while Wellington Oil Company's Clara Driscoll Sevier 1 is spudding on a 6500-foot contract.

The main Saxet field of Nueces County is centering its attention around the 6200 to 6900-foot sands with fully a score of rigs headed for this level.

Gem Oil Company's Stockton 1, discovery well of a new deep sand in the London field, Nueces County, was flowing at the rate of 25 barrels of distillate and several million cubic feet of gas per day from 4752-61 feet. Through ¼-inch choke, the test showed pressures of 1200 pounds on tubing and 1800 pounds on casing.

Phillips Petroleum Corporation is still working on Schmidt 1, discovery well of the new Midway field, San Patricio County. The oil volume is showing an increase, a recent gauge being 75 barrels in 24 hours through ⅛-inch choke.

Magnolia Petroleum Company made a small gasser through perforations at 2519½-24 feet in Annie B. Wagner 1, to open a new sand for the Telferner field, Victoria County. The company is rigging up to work over Beck 1, discovery well of the field, a gasser at 3578-82 feet.

North Sweden Active

San Antonio. — North Sweden field, eastern Duval County, becomes one of the hot spots of South Texas with nearly a dozen locations being staked in the immediate vicinity of the producer for tests to be drilled to the 4750-foot horizon. Several of the wells already have been spudded while rigs are being moved in for more.

Those participating in the new campaign include Argo Oil Company, Arkansas Fuel Oil Company, Frank J. Gravis, Hiawatha Oil & Gas Company, Highland Oil Company, George B. Parr Oil Company, Smith & Storey, and others. The new locations range from offsets to 3500 feet from the discovery and will quickly define this apparently important producing area.

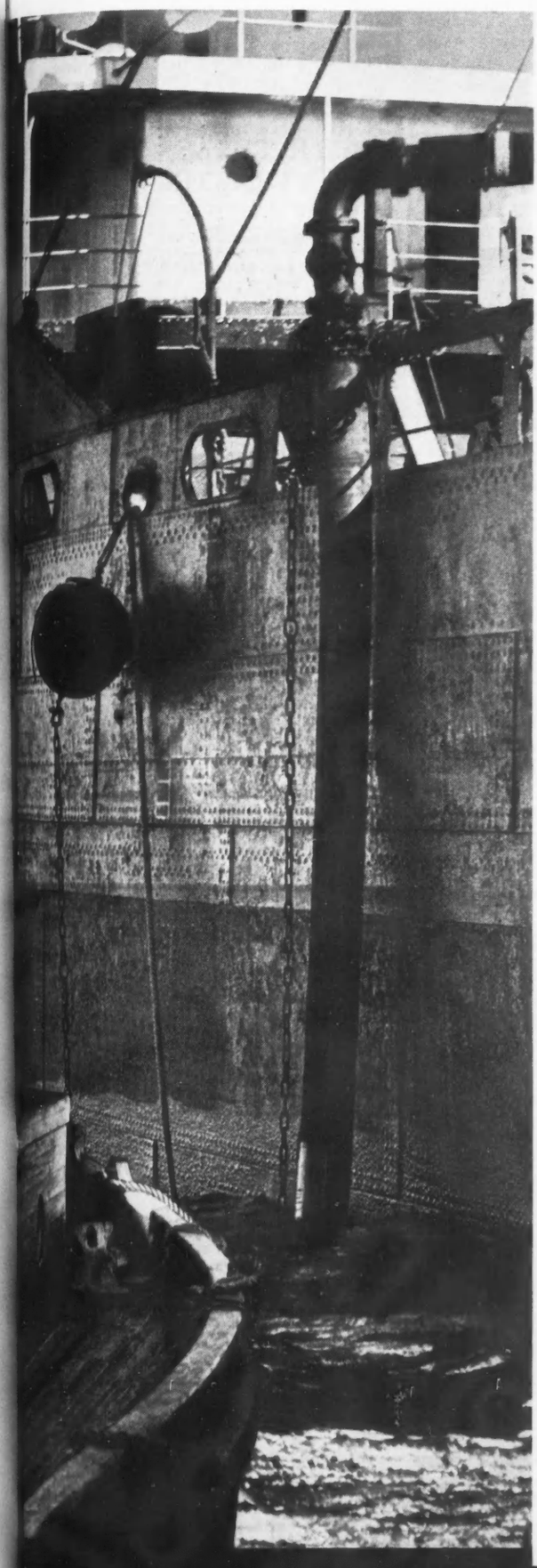
Spurt in Balcones Area

San Antonio.—Deep drilling activity along the southwestern portion of the Balcones fault zone received another spurt during the past several days with severa lnew locations and resumption of drilling in old tests.

Work is to be started shortly on Paul C. Teas and Maryland Oil Corporation's S. E. McKnight 1, C NE Section 23, Dimmitt County, which contracted to the Edwards limestone, expected about 6500 feet. It is 1½ miles south of Humble Oil & Refining Company's test drilled several years ago which had good showings and 3½ miles southeast of Diamond Half Oil Company's abandoned test. It is on a 4000-acre block and is on one of the most promising structures along the Chittim anticline. Wilcox Oil & Gas Company's Light Ranch 1, in the southeastern portion of the county, was below 5025 feet on its 7000-foot contract.

Amerada Petroleum Corporation has

10,000 Barrels per hour



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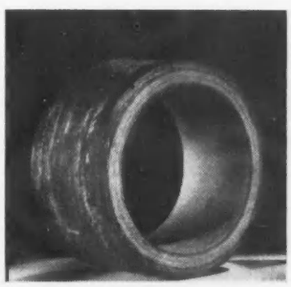

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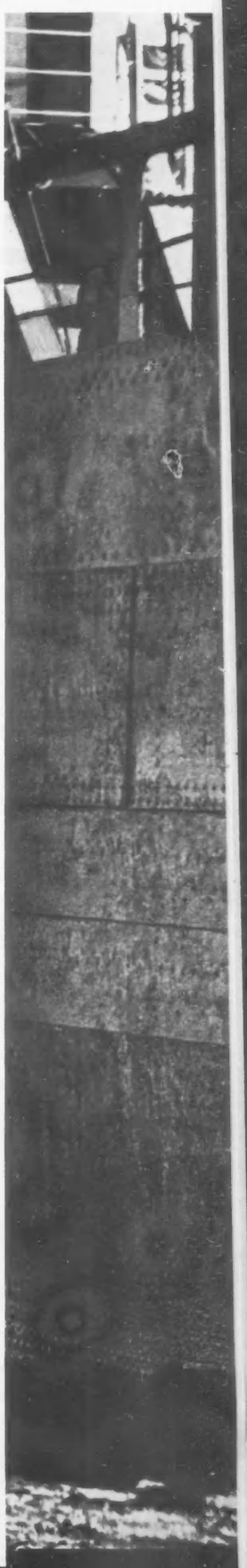

OSE • CONVEYOR AND TRANSMISSION BELTS • PACKING

one new location and four active deep operations in the Pearsall district of Frio County. Halff & Oppenheimer 8, projected 10,000-foot Trinity test, was drilling below 9385 feet, still in Glenrose. Halff & Oppenheimer 1, abandoned several years ago at 6312 feet, is washing down to 6312 feet to resume operations, while E. O. Kothman 1, east side of the field, a deepening job, is below 5455 feet, still in Austin chalk.

While the majority of the producers being completed in the Branyon shallow Austin Chalk sector of Caldwell County are small, a few tests continue to find broken sections in the producing zones and show high initial yields. Chiquita Oil Company's C. Robertson 4 topped the chalk at 1943 feet and found crevices to 2207 feet, where it flowed between 1000 and 1200 barrels per day without acidizing. Fred Adams' W. M. Ellison 6, about 3000 feet northeast along strike from the only Edwards lime producer in this field, was completing in this formation at 2324-26 feet. It is 120 feet west of Ellison 4, a large producer in the chalk, and 200 feet east of Ellison 5, which ran several hundred feet low, and was abandoned in the Edwards limestone. The lime likely will be productive on a very narrow ridge along the top of this fault.

JOHN D. GUSTAFSON, a 1936 mining and petroleum engineering graduate of Ohio State University, now is with Carter Oil Company at Burbank, Oklahoma.

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West Beaumont Hearing

Austin. — A hearing on the West Beaumont field, Jefferson County, has been called for May 7 by the Texas Railroad Commission. It will be held in Austin.

The hearing was called by request of the Stanolind Oil & Gas Company, principal operator in the field, for the purpose of hearing evidence upon which to base spacing and other rules for operating in the field. A commission order has been issued separating Amelia from West Beaumont.

SOUTH TEXAS Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
LAREDO DISTRICT		
DUVAL COUNTY—		
Argo Oil Co. & John Clopton, Smith-Corkill 3, 330 ft out of s corner of n¼ of e¼ of sur 498, 1 mi s of Hoffman field	*	2898
Humble, Duval County Ranch Co. 21-C, sec 901 (Lopez)	*	2158
Dowdy-Fee 14, sur 272 (Seven Sisters)	475	2569
M. Vela 8, sec 42 (Loma Novia)	130	2655
Magnolia, Servando Benavides 24, block 14, O'Hearn & Seacord sub (Cole-O'Hern)	300	2840
Duval County Ranch Co. 16, sec 100 (Piedre Lumbre)	225	1986
Duval County Ranch Co. 17, sec 100 (Piedre Lumbre)	175	1978
Louise Wendt 1, sur 56 (Gov't Wells)	*	2490
J. O. Wilson 18, sur 134 (Gov't. Wells)	*	2676
Smith & Hamill, G. Ruiz Estate 5, sur 41 (Loma Novia)	*	2607
Standard of Kansas, O. W. Green 5, sur 118 (Hoffman)	50	2838
Texas Co., A. H. Badgley 11, sur 307 (Seven Sisters)	650	2520
Bishop Cattle Co. 24, sec 57, (Loma Novia)	175	2570
Duval County Ranch Co. 21, sur 100 (Piedre Lumbre)	78	1990
Texas Co., D. Ruiz 4-B, sur 41 (Loma Novia)	100	2559
Transwestern Oil Co., Duval County Ranch Co. 1, sur 152 (Charamousca)	*	1683
Wellington Oil Co., Duval County Ranch Co. 6, sec 52 (Colmena)	760	1483
Duval County Ranch Co. 7, sur 52 (Colmena)	190	1485
JIM HOGG COUNTY—		
Gifford Oil Co. & Locke Purnell, E. L. Armstrong 2, 330 ft nl, 990 ft el sur 43, 660 ft n and w No. 1, 5 mi ne Randado field	*	3690
McMULLEN COUNTY—		
Loma Oil Co., L. Jacob Corp. 5-B, sur 15 (N. Jacob)	15	1049
STARR COUNTY—		
Danrey Oil Co., Cayetano Ramos 1, 2400 ft sel, 150 ft swl of sur 150	*	1280
K. E. Merren, Starr County Co. 1, por 89 (Barbacoas)	*	5381
WEBB COUNTY—		
Eugene Garner, Jr., R. Saldivar 1, 2760 ft nl, 700 ft el sur 657	*	1519
Magnolia, Seacord Benavides 20, blk 496 (Cole-O'Hern)	100	2939
ZAPATA COUNTY—		
Evans, Long & Mims, M. Garza Est. 150 ft sel and swl blk 88, Douglas sub, Comitas gr	*	1785
E. C. Reeves, M. Bustamante 1, sh 9, Comitas gr (Escobas)	†	1165
Texas Pipe & Supply Co., M. Bustamante 1, sh 9, Comitas gr (Escobas)	45	1190
Valley Osage Oil Co., A. D. Haynes 1-B, blk 14, Comitas gr (Comitas)	*	1179
CORPUS CHRISTI DISTRICT		
ARANSAS COUNTY—		
Buckingham & Jones, McCampbell 2-B, lots 13 and 14, blk 40 (McCampbell), perf 7085-95 and 7112-22	550	7546
BEE COUNTY—		
Dirks Bros., Dewey Sinclair 1, Uranga gr (Strauch)	*	4330
D. D. Feldman, G. F. Shaw 1, sec 18, Uranga gr (Strauch)	*	4315
Siznod Oil Co. et al, D. Burger 1, sec 19, Uranga gr (Strauch)	*	4357

*Failures; †Junked; ¶Million cu. ft. gas.

Company, Well and Location	Init. Prod. Bbls.	Depth
BROOKS COUNTY—		
Standard of Texas, Mestina 4, sh 5, Salinas gr (Alta Mesa)	425	2772
CALHOUN COUNTY—		
Hiawatha Oil & Gas Co., John Roemer 1, J. J. Ogsberry sur, owdd former td 8378	†	8470
Humble & Plymouth, P. H. Welder 10-A, J. M. Rios sur, (Heyser)	750	5495
Portilla Dr. Co., P. H. Welder 15-C, A. Sisneros sur (Heyser)	900	5444
HIDALGO COUNTY—		
Union Sulphur et al, American 7, blk 59, Tr 2039, Capisallo dist. (Mercedes), owwo, perf 7516-26	¶5	7608
JIM WELLS COUNTY—		
Graham & Gilcrease, C. M. Laughlin 3-B, lots 78 and 83, sec 77 (Premont)	200	2255
O. W. Killam, W. D. Wade 2-B, lot 40, blk D, Bode sub (Sandia)	*	4033
KLEBERG COUNTY—		
Humble, R. J. Kleberg 9, sec 40 (Kingsville)	350	3228
LIVE OAK COUNTY—		
F. D. Salter et al, J. W. Griffith 1, 1300 ft swl, 990 ft sel J. D. Osborne sur, N. Jacob	7	949
NUECES COUNTY—		
Bentex Oil Corp., Frank Harmon 5, sec 416 (Saxet) perf 5772-74	650	7010
Gem Oil Co., Myrtle L. Stockton 1, sec 25 (London) ¶10 &	75	4761
Lonnie Glasscock, J. B. Hunter 3, A. C. Page sur (Saxet) pb td 4864	580	6959
W. H. Harrison Drilling Co., Taggert 1, sur 401 (Saxet)	*	6005
Humble & Barnsdall, R. A. Gulden 2, lot 19, blk 47 (Flour Bluff)	800	6680
Josie Miller 4-A, lt 19, blk 56 (Flour Bluff)	800	6663
L. M. Lockhart, Mrs. Mable Eliff 1-B, Antone Longoria sur (S. Agua Dulce) ¶5 &	200	5797
Potter & Snowden, Inc., Antone Kocurek 1, John Smith sur 25 (Saxet)	375	4209
Richardson Pet. Corp., Cain & Sechrist 13, blk 23, Russell Farm lots (Saxet)	650	4431
J. P. Walker, J. C. Ingram 2, lot 1, sec 9 (Agua Dulce) ¶20 &	150	4815
REFUGIO COUNTY—		
Hewitt & Dougherty, M. F. Lambert 44, Swisher sur 6 (Tomocco nor-Greta)	725	5915
Illinois Pet. Co., Ira Heard 3, Ximines sur (Greta)	526	6525
Wilson Heard 3, M. J. Ximines sur (Greta)	975	5960
United Production Co., M. F. Lambert 44, Swisher sur No. 7 (Tomoconnor)	890	5915
SAN PATRICIO COUNTY—		
Cage Prod. Co. & McDonald, J. W. Mayo 1, Fessenden sur (Taft)	*	5002
Conroe Drilling Co., T. A. McKamey 1, 330 ft sl and wl blk M, Pauls sub, Coleman Fulton Pasture Lands, 3 mi w Gregory	*	6446
Humble, Blaschke & Mayo 1, sec 25, blk 8 (Taft-Plymouth) ¶5 &	20	6195
Plymouth, E. H. Welder 71-C, sec 71 (Plymouth)	500	5644
E. H. Welder 73-C, sec 71 (Plymouth)	500	5645
VICTORIA COUNTY—		
Gulf, Claude A. Deeran 10, M. de Leon sur (Keeran)	650	5969
Magnolia, Annie B. Wagner 1, T. & N. O. RR. Co. sur (Telferner)	¶5	4240
SAN ANTONIO DISTRICT		
BEXAR COUNTY—		
W. D. Bacon et al, Ida Mae Seffel 1, 350 ft wl and 650 ft nl 29-ac tr in Jose Arocha sur, 2500 ft n Cooksey pool, 1100 ft se Meaders Prod.	*	2101
Shadrock Oil Co., W. Kohler 8, J. S. Simpson sur (Von Ormy)	3	657
CALDWELL COUNTY—		
J. R. Brinkley, Jr., Oil Co., Mrs. A. C. Bridges 1, 460 ft nel, 800 ft nwl 196-ac tr, Solomon Seal sur, 3 mi nw Luling	*	2246
Commonwealth Oil Co., W. W. McCrory 1, John A. Neil sur (Branyon-Buchanan)	950	2170
Mee, Ames & Mee, M. E. Lancaster 3, Dillard Cooper sur	205	2175
Sherman Nelson, A. B. Etheridge 1, 190 ft nl, 400 ft wl, 94.3 ac tr, Thad Hunter sur, n end of Luling field	*	2180
H. F. Sackett & M. J. Keoughan, J. E. Cardwell 1, 150 ft nl and 220 ft wl 50-ac tr, Jno. P. Bell sur, 4 mi ne Lockhart	*	1780

*Failures; †Junked; ¶Million cu. ft. gas.

Strauch Area Limited

Beeville.—Strauch, Bee County Yegua sand producing area, apparently will be a field of limited proportions, as 3 of the 5 wells have failed to materialize as producers. They, however, are believed to have sufficiently outlined the producing limits of the field that future work will be considerably less hazardous.

Dirks Brothers' D. Sinclair 1, south offset to Strauch 2, apparently cut to the low side of the fault and on a drill-stem test at 4219-81 feet developed 390 feet of mud-cut oil with salt water in 20 minutes, pressure being 30 pounds through ¼-inch chokes. It was carried ahead to 4368 feet and abandoned. Siznod Oil Company et al's D. Burger 1, west offset to the Strauch 2, cut the fault at the producing horizon, finding only 1 foot of oil sand at 4251-52 feet and was abandoned at 4357 feet. On the theory that these wells determine a northwest-southeast fault, a second well has been started on the Burger tract 1170 feet to the north. The field was defined to the northeast by D. D. Felman's G. F. Shaw 1, 3000 feet from production, which was abandoned at 4315 feet after showing salt water in the Yegua sand. Strauch 1, discovery well, was completed several weeks ago at 4267-75 feet as a flowing well, while Strauch 2 was finished several days ago at 4353-63 feet as a flowing well.

Live Oak County is coming in for an active wildcatting play with several more tests being started. Likewise, scattered tests are active through the rest of the Pettus district.

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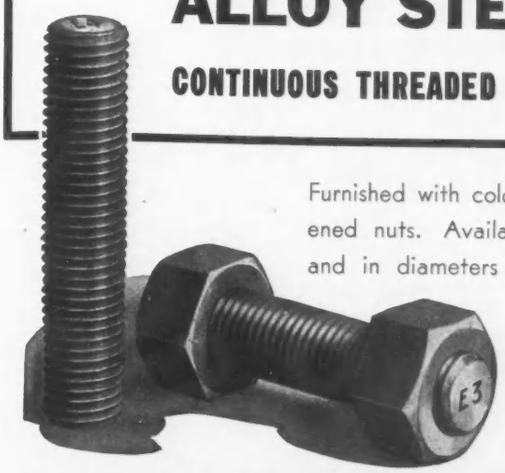

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HOUSTON, TEXAS

TEXAS GULF COAST

Oil found in new formation in Texas Gulf Coast.

* * *

Gulf gets new Oligocene production at Fannett.

* * *

Republic extends Silsbee field 1866 feet north.

Houston.—Republic Production Company apparently has discovered in a Tyler County wildcat production from either Sparta, Weeches, Queen City, or some other sand of Claiborne age, none of which has ever produced oil in the Texas Gulf Coast before. Hurd Fee 2, N. Hurd Survey, southeast of Spurger gas field, encountered oil sand from 7621 to 7641 feet. On an 11-minute drill stem test through two ¼-inch chokes it showed 11 joints of 41 gravity pipe line oil, 100 pounds pressure, and no water. Seven-inch casing has been set at 7620 feet for a production test over the week-end. The company has not been able to determine which of the sands the oil is coming from. Other wells drilled in this area by Republic Production Company stopped in Weeches formation.

Field Discovered in 1932

Republic Production Company and Houston Oil Company hold considerable fee land in this area. In 1932 they discovered Spurger field, which centers around the A. Sterne and E. Thompson surveys, approximately 3 miles southeast of the town of Spurger. Their Sterne 1 came in making an estimated 2,500,000 cubic feet of gas and 15 barrels of salt water spray containing 25 percent gasoline. Pressures around 1800 pounds were recorded through ⅛- and 3/16-inch chokes from sand at 4698 to 4708 feet. This well was producing from Cockfield formation.

Since Spurger field was discovered, Republic Production Company and Houston Oil Company have drilled around 10 tests along this trend; 9 were dry, and only the discovery well has shown gas and distillate.

Hurd Fee 2 is expected to start a trend play in this area for the new producing formation. Rockland field, in the extreme north portion of Tyler County, is the only other field in the County, and it is producing from the base of the Jackson or the top of Yegua formation. Rockland is just about depleted. Prospects taken by major and independent operators in Newton, Jasper, Tyler, Polk and San Jacinto counties may be drilled for this new formation.

New Sand at Fannett

A new deep Oligocene sand was discovered on the southern flank of Fannett field, Jefferson County, when Gulf Oil Corporation completed Junker 7, W. H. Smith Survey, flowing 667 barrels of pipe line oil daily through ¼-inch choke with tubing pressure of 1150 pounds and casing pressure of 1025 pounds from 6535 to 6612 feet. Nine-and-five-eighths-inch casing was set at 5995 feet. This new sand will no doubt revive drilling in this old field.

Amelia field, Jefferson County, was defined on the northeast last week when Humble Oil & Refining Company abandoned M. L. Leffler 2-B, Lot 5, Block D, Mayfair Second Subdivision, C. Williams Survey, at 6830 feet. This well cut a fault, and probably all locations which the operators have made in this area will be abandoned. However, it is understood that the community drilling lots carry drilling obligations. Humble usually carries two locations ahead of each drilling well. Besides the one failure at Amelia last week, there were three other wells completed by Humble Oil & Refining Company.

Showing location of Tyler County well which has oil in a new sand for the Gulf Coast region.

Nome Outpost Abandoned

Approximately 1300 feet north and east of production at Nome field, Jefferson County, Shell Petroleum Corporation abandoned Carpenter 5, M. Peveto Survey, after drilling to 6800 feet. Carpenter 5 was plugged back a number of times, and at 6034 feet it showed dry gas with a tubing pressure of 1900 pounds and a casing pressure of 1800 pounds through a 9/64-inch choke.

At Big Hill in Jefferson County, Stanolind Oil & Gas Company's Fitzhugh 1, Wm. McFaddin Survey, was being swabbed at the close of the week at 4908 feet. The potential discovery was drilled to 5572 feet in salt and plugged back to 5421 feet. Screen was set from 4928 to 4908 feet. The well was washed in and it made 17.88 barrels in 3 hours and then went dead. While flowing it showed a pressure of 575 pounds.

Silsbee Extended North

Approximately 1866 feet north of production at Silsbee field, Hardin County, Republic Production Company's drill stem test of Brooks 9, G. W. Brooks Survey, showed 22 joints of pipe line oil and a 50-pound pressure through quarter-inch chokes from 6905 to 6915 feet. Seven-inch casing was cemented at 6906 feet and a production test will be made over the week end.

Segno field, Polk County, was defined on the east last week when Humble Oil & Refining Company's Kirby Lumber Company 1, 3500 feet east of production, was abandoned at 5214 feet after drilling to 5652 feet. A drill stem test at 5194 feet through a quarter and three-eighth inch choke showed 41 thribbles of salt water with a small amount of oil. The company announced location for Kirby Lumber Company 3, 990 feet south of the northeast corner of I&GN Survey, Section 13, and 990 feet east of the west line of M. Victor Survey, Abstract 588, approximately a mile southeast of Kirby Lumber Company 1. This new location is on a different structure.

LaQuinta Oil Company's Wing 1, Segno field, Polk County, cored oil sand from 5185 to 5195 feet and set 7-inch casing at 5183 feet.

Extend Turtle Bay Field

From 6609 to 6614 feet, Stanolind Oil & Gas Company cored oil sand in Silva 1 to indicate a half-mile extension of production at Turtle Bay, Chambers County. At the end of the week the crew was running casing for a production test.

The second profitable well was completed at South Cotton Lake field, Chambers County, last week by Salt Dome Oil Corporation. Lawrence D-1 extended production about 1000 feet southwest when it came in making 460 barrels of pipe line oil daily through a quarter-inch choke. Tubing pressure was 700 pounds and casing pressure was 950 pounds. The extension test was

completed in sands from 6514 to 6525 feet.

Lochridge field, Brazoria County, was extended a mile southwest last week when Gulf Oil Corporation cored oil sand in Wood 1-A, Thos. Alsberry Survey, from 6367 to 6386 feet and set 7-inch casing at the bottom of the hole for a production test.

Approximately 800 feet southeast of production at Hastings field, Brazoria County, Humble Oil & Refining Company completed Southwestern University 1, in oil sands from 6085 to 6095 feet, making four barrels of 31.2 gravity oil per hour through a quarter-inch choke.

A new deep drilling record has been established in the Texas Gulf Coast by Continental Oil Company. Robbins 2, Citrus Grove prospect, Matagorda County, was coring in shale at 10,550 feet, having passed the mark set by Shell Petroleum Corporation at Hitchcock in Galveston County, of 10,460 feet. It is understood that the well has passed through 3000 feet of heaving shale and probably has conquered the formation.

Continental Oil Company also holds the deep drilling record in the Louisiana Gulf Coast, having drilled a well to 12,216 feet.

TEXAS GULF COAST
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ACE—		
Peyton Brothers, Waldman 1	*	5000
AMELIA—		
Humble, Nolan 1	660	6780
Phelan 3	648	6780
Sims et al 1	456	6780
M. Lefler B-1	¶2½	6783
M. Lefler B-2	*	6830
ANAHUAC—		
Gulf, Wilcox 6	693	7080
Humble, Engles 10	552	7108
Johnson 7	672	7084
Tyrell 14	672	7085
White 16	432	7128
BARBERS HILL—		
A. Webber, Japhet 1	206	2412
BATSON—		
Ada Belle Oil Co., Knight 252	8	378
Knight 253	*	824
Gulf, Wing 185	34	739
BLUE RIDGE—		
Texas Gulf, Blakeley 16	503	4605
BOLING—		
L. Patterson, Banker 14	25	382
Banker 15	20	388
FANNETT—		
Gulf, Junker 7	667	6612
HASTINGS—		
Humble, C. Brown B-3	611	6080
Southwestern University 1	96	6095
Stanolind, Berger 2	72	6080
Blount 3	595	6080
HIGH ISLAND—		
Stanolind, Cade A-35	262	5205
MANVEL—		
Texas Co., O. L. Rash B-1	*	7080
NOME—		
Shell, Carpenter 5	*	6145
Sun, Paggi 6	¶1	6049
SEGNO—		
Humble, Kirby Lumber Company 1	*	5652
SOUTH COTTON LAKE—		
Salt Dome, Lawrence 1-D	460	6529
TOMBALL—		
Humble, Murphy B-1	96	5571
VAN VLECK—		
Skelly Oil Co., Rugeley 2	650	8220
WITHERS—		
Texas Co., Pierce Estate C-25	216	5555
Pierce Estate C-26	48	5556
GALVESTON COUNTY—		
Shell, Maco Stewart 2, Hitchcock prospect, J. Spillman sur	*	6800
POLK COUNTY—		
Mayo Brothers, Mayes 1, w of Segno, S. G. Loving sur	*	5101

*Failures; †Junked; ¶Million cu. ft. gas.

GULF DRILLING
Texas legislators say would not cause damage

Austin.—A special legislative committee has decided that drilling in the Gulf of Mexico will result in no damage to property. This conclusion was reached last week after the party investigated conditions in Louisiana where drilling in tidal waters has been extensively developed. The conclusions of the committee are as follows:

1. Potential value of the drilling program to the schools justifies the program at least in the protected bays and bayous.

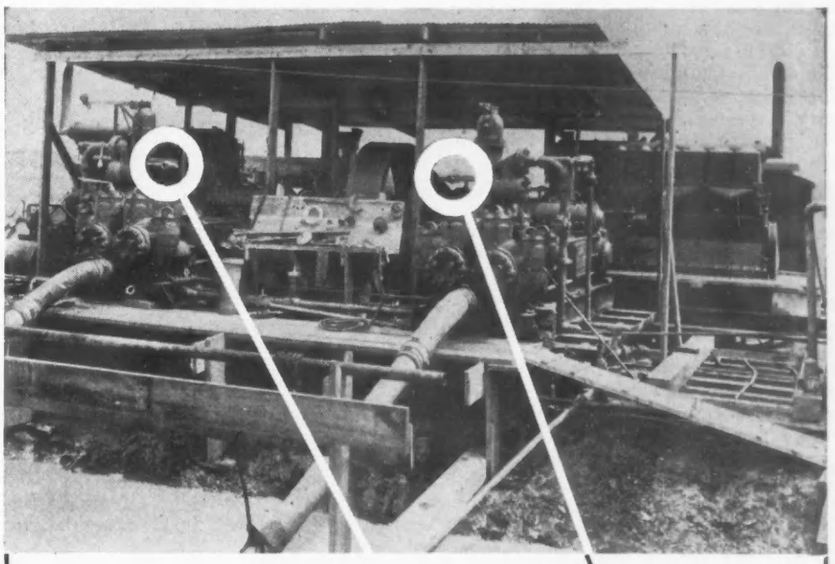
2. By promulgation of "strict and rigid rules" governing drilling and production, the prevention of pollution is possible and the danger of pollution is insufficient to justify a withdrawal of inland waters from lease and development.

3. Passage of legislation should be delayed until a more comprehensive investigation can be made.

4. There is ample statutory authority in the Railroad Commission and Fish, Game, and Oyster Commmission to promulgate and enforce adequate rules for the prevention of pollution during the interim preceding passage of adequate legislation.

In the course of its report, the committee said,

" . . . Your committee investigated the extent of tidal waters subject to lease and found that, including bayous,



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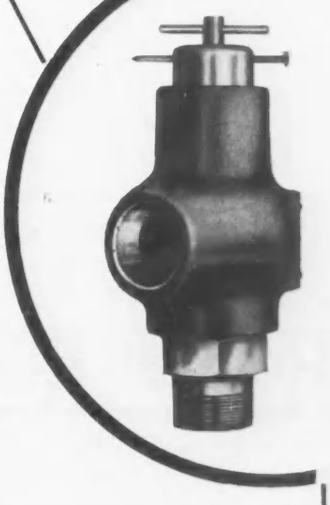

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bays and the gulf itself, in the neighborhood of three million acres of water-covered territory is involved . . . approximately $4,000,000 has been received by the permanent school fund on leases heretofore executed. Your committee was informed by competent oil engineers that the average concentration of oil fields was one field to each 80,000 acres and the average production per field in the neighborhood of 60,000,000 barrels. . . . (conservatively) it seems possible there exist potential oil fields in excess of ten, and royalty on leases heretofore made would amount to $100,000,000, in addition to an additional ten or twenty million dollars if leasing activities continued. . . . The committee visited the Louisiana fields (and) found no evidence of past or present pollutions. They have survived two hurricanes but there was no substantial pollution. Your committee observed in the neighborhood of such fields crabs, oysters and barnacles and minnows in quantities . . . was informed of thriving oyster beds in close proximity . . . was served with luncheon consisting of shrimp and fish from the vicinity, the fish having been caught from the platforms and catwalks in the vicinity of the oil wells. . . . It was customary practice to equip all wells with double blowout preventers and automatic production cutoffs. Casings and pipe lines were equipped with flexible joints. Your committee was informed that while drilling from sunken barges was practicable in the fields, involved, which were located in water from two to seven feet deep, such procedure would not be practicable in deeper water or in water located close to solid land . . . Your Committee feels there is probably equally as much danger of pollution from wild wells and hurricanes occuring in operations conducted close to tidal waters as from operations taking place actually in the water."

SOUTH LOUISIANA

Pan American extends Charenton 2200 feet southeast.

* * *

Wax Lake wildcat preparing to go to 13,000 feet.

* * *

World's deepest drilling test setting casing.

Lake Charles.—Charenton field, St. Mary Parish, was extended 2200 feet southeast when Pan American Production Company's South Coast Corporation 1, Section 30-13s-10e, logged a new deep sand approximately 700 feet below the regular producing horizon and showed 1000 feet of pipe line oil on a five-minute drill stem test. The crew is setting seven-inch casing for a production test.

South Coast Corporation 1 was drilled and cored to 7923 feet in sand showing oil after logging the top of sand at 7908 feet. An electrical logging device was run and then the drill stem test was taken with the seat at 7906 feet. The test has been shut down for 60 days due to high water from Grand Lake.

West of the discovery well at Charenton, Pan American Production Company's Lawes 3, Section 25-13s-9e, St. Mary Parish, was coring ahead below 8206 feet, below the regular producing horizon, to set a new deep drilling record for the field.

The discovery well at Charenton will be worked over, due to water encroachment.

West of Charenton, Teche Oil Company's LeBourgeois 1, east of production at Jeanerette field, St. Mary Parish, Section 59-13s-8e, was abandoned last week at 7006 feet.

Texaco Preparing to Break Record

The Texas Company is preparing Horseshoe Bayou 1, Wax Lake prospect, Section 40-7s-9e, St. Mary Parish, to go to 13,000 feet or deeper, if production is not found above that depth. At the end of the week the crew was repairing rig at 11,769 feet.

The world record for depth is 12,786 feet.

While drilling Horseshoe Bayou 1 to 10,976 feet a 12½-inch hole was carried all the way down. After setting 7⅝-inch at 10,975 feet, the hole was reduced to 6⅝ inches. S. Rhodes is the drilling contractor on Horseshoe Bayou 1.

No accidents have occurred and no major trouble has been encountered.

The Texas Company encountered trouble with State Bateman Bay 1, Morgan City prospect, Section 21-16s-12e, St. Mary Parish, when the barge slipped. It was sunk on a sand bar and currents from the river have undermined the barge and caused it to tilt and bend the pipe. It has been reported that the company may have to abandon the wildcat due to this trouble. State Bateman Bay 1 was drilled to 8953 feet and probably would have been carried down below 10,000 feet had not this trouble occurred.

Deepest Active Well in World Setting Casing

Humble Oil & Refining Company's Elender 1, Houma gas field, Section 23-19s-19e, Terrebonne Parish, the deepest active well in the world, was setting seven-inch casing at 12,165 feet at the end of the week. The casing will be cemented onto the 9⅝-inch string set at 8735 feet. After cement has set the

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HOUSTON, TEXAS

crew will perforate sands which have shown evidence of oil.

If production is not obtained from shallower sands Elender 1 will probably be carried deeper. It has to go approximately 622 feet more before it establishes a new world's record for deep drilling.

Hayes Wildcat Abandoned

Stanolind Oil & Gas Company's United Life Insurance 1, Hayes prospect, Section 16-11s-5w, Jefferson Davis Parish, was abandoned last week at 9942 feet after showing salt water and gas. The drill stem became stuck and the hole was plugged. United Life Insurance 1 attempted to blow out at 9942 feet.

South of Roanoke, Jefferson Davis Parish, Shell Petroleum Corporation's Sturdevant 1, Section 25-10s-4w, was tested again last week at 8555 feet and showed gas and distillate. After plugging back from the 8450-foot sand a cement retainer was set and cement was drilled out to 8555 feet. Two and a half-inch tubing was hung at 8360 feet and Sturdevant 1 came in making 2½ barrels of 47 gravity distillate along with 869,000 cubic feet of gas through a 9/64-inch choke. Tubing pressure was 2950 pounds and casing pressure was 3150 pounds.

Three Wildcat Locations Announced

Three new wildcat locations were announced in the Louisiana Gulf Coast last week, two by Gulf Oil Corporation and one by Humble Oil & Refining Company. Gulf's Louisiana State 3, is 1500 feet west and 1423 feet south of the northeast corner of Section 36-23s-21e, Lafourche Parish. Its Haas-Hirsch 1 is located in the Krotz Springs area, 466 feet north and 1399 feet east of the southwest corner of Section 12-6s-7e, St. Landry Parish. Humble's new wildcat location, Bell-Hanszen 1, is on the Hanszen prospect, C SE Section 5-12s-6e, Cameron Parish.

Humble Oil & Refining Company has spudded in Federal Land Bank 1, 466 feet south and 466 feet west of the northeast corner of the south half of Section 34-8s-1e, North Crowley prospect, Acadia Parish, and was drilling in surface clay at 221 feet.

SOUTH LOUISIANA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
DARROW—		
Humble, Community 15	1080	5691
EAST HACKBERRY—		
Gulf, Irwin 23	*	5505
JEANERETTE—		
Teche Oil Co., LeBourgeois 1	*	7006
LAKE HERMITAGE—		
Gulf, Lafourche Levee Basin District 6	*	6612
NEW IBERIA—		
Wm. Helis, Bullock-Burke A-4	300	3886
SULPHUR—		
Union Sulphur, Fee 842	768	5056
Fee 844	¶2½	5189
WEST HACKBERRY—		
Stanolind, School Land 18	261	5996
JEFFERSON DAVIS PARISH—		
Stanolind, United Life Insurance 1, Hayes prospect, sec 16-11s-5w	*	9942

*Failures; †Junked; ¶Million cu. ft. gas.

NORTH LOUISIANA

Lisbon extended half mile; has 16 tests drilling.

* * *

Study feasibility of repressuring Cotton Valley.

Shreveport.—Lisbon field, Claiborne Parish, added two wells last week to bring the total there to six producers, one of the new ones extending production one-half mile east. Sixteen tests were drilling or waiting on final string of casing's cement to set, April 29. Besides these, there were eight other rigs and six derricks up with seven other active locations.

McMillan and DeArmand's Maggie Patton 1, NE SW 31-21n-4w, was completed at 5293 feet, with 21 feet of saturation, to extend the producing limits ½-mile east. It is flowing 25 barrels of oil per hour through 21/64-inch tubing choke. A west offset to the second producer of the field, Oden and Evans' Patton Estate 1, SE SE 36-21n-5w, was completed April 29 by Love Petroleum Company in H. E. Patton 1, SW SE 36-21n-5w, completed at 5350 feet flowing 35 barrels per hour through ½-inch tubing choke. It had saturation from 5331 to 5344 feet.

Gulf Oil Corporation's H. E. Patton 1, NE NW SW 36-21n-5w, is ready to drill plugs and test at 5324 feet after logging saturation from 5310 to 5321 feet. Gulf's H. E. Patton 2 in the same quarter was running 7-inch casing at 5324 feet, and its Eva Bennett 1, SW SW 31-21n-4w, cored 14 feet of saturation at 5349 feet. Final casing had also been set in Lyons and Neely's Maggie Patton 1, Section 31-21n-4w, at 5264 feet, and in T. L. James Company's Patton 2, NE SE 36-21n-5w, which

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SHREVEPORT, LOUISIANA

Lake Charles—Houma—Converse
New Iberia—Rodessa—Monroe—Cotton Valley—Turnertown—Greggton—Houston

logged top of the saturation at 5319 feet with 13 feet of saturation and a total depth of 5344 feet.

Lyons and Neely announced two new locations during the week: Maggie Patton 2 C E half NW SW 31-21n-4w, and H. E. Patton 2, C W half NW SW 36-21n-5w.

Sells Petroleum Company acquired the SE SE 31-21n-4w, from J. B. Bond and L. H. Pratt has leased 400 acres in Sections 11, 12 and 14-21n-4w. P. W. Woodruff has secured from Max Brandt the SW NW of 6-20n-4w, Lincoln Parish.

On the southwest flank of the Simsboro gas field, in Township 17 north, Range 4 west, United Carbon Company has been taking some leases.

Well revises theory as to location of Rodessa fault.

Shreveport. — Causing a revision of theories as to the location of the Rodessa fault in the northeast part of Rodessa field, Lion Oil Refining Company's Holm 1, NW SE SE 9-23n-15w, Caddo Parish, was completed last week flowing 434 barrels of oil in 12 hours through half-inch tubing choke from ten feet of saturated Young formation at 6042 feet. Casing pressure was 600 pounds; tubing, 450 pounds.

In the northwest offshoot of the Louisiana side, J. Edward Jones' Maidie Sharpe A-4, NE SW NE 4-23n-16w, was completed from the Mitchell sand at 6045 feet, flowing 16 barrels of oil per hour through quarter-inch tubing choke, with 500 pounds casing pressure and 75 pounds tubing pressure. It was one location to the east of former production.

Shreveport.—Magnolia Petroleum Company's George Estate 11, John Collom Survey, northwest edge test on the Cass County, Texas, side of Rodessa, showed five joints of salt water and considerable oil in a 20-minute drill stem test April 30 from 6548-6565 feet in basal Glen Rose, with one-half inch choke at bottom and three-eighths inch at top Top of basal Glen Rose was 6435 feet; elevation is 293 feet. This is 400 feet below the Young, the deepest Rodessa producing horizon.

One location west of production in this offshoot of the field, Gulf Oil Corporation's Campbell 1, SE NW 4-23n-16w, was completed at 6050 feet in the Mitchell, flowing 585 barrels of oil in 24 hours through 2½-inch tubing.

R. W. Norton's W. E. Payne 1, SE SE 27-23n-16w, south of Rodessa production, was waiting on cement to set after seven-inch casing was run; depth is 9482 feet.

41 Louisiana Permits

Shreveport.—Forty-one drilling permits were authorized last week by the minerals division, Louisiana Conservation Commission. Twenty-nine were for North Louisiana, divided among the following parishes: Bossier 6, 3 in Sligo and 3 in Bellevue; Caddo 4, including 3 in Rodessa; Claiborne 10, all for Lisbon; LaSalle 1; Lincoln 1; Morehouse 1; Ouachita 1; Red River 1; Union 3; Webster 1, in Cotton Valley.

The 12 in South Louisiana were divided among the following parishes: Acadia 3; Calcasieu 3; Cameron 1; Iberville 1; Plaquemines 1; St. Landry 1; Terrebonne 2.

Deep Caddo Test Revived

Shreveport. — Stanolind Oil & Gas Company, which long has been reported planning a 7000-foot test in the old Pine Island field, Caddo Parish, has assembled approximately 10,000 acres of leases in that area, reviving the report that this test will be started at an early date. This company's Dillon 92, Section 13-21n-15w, was drilled to 6125 feet where it showed considerable gas eight years ago.

Ohio Oil Company has also been leasing in Township 22 north, Range 16 west, Caddo Parish. Ray Overlees, who has recently been assembling a block in Bossier and Caddo Parishes in Township 21 north, Range 14 west, last week announced location for O. L. Biedenharn 1, NW NE 23-21n-14w, on a block of 3000 acres. The test is planned for 6000 feet to the Glen Rose.

Standard Oil Company of Louisiana is reported planning an early Travis Peak test in Section 14-21n-1e, Union Parish, where it recently did shooting work and took leases available around the abandoned Travis Peak test of Jack Lent and associates in Section 27-21n-1e.

J. K. Wadley is moving in materials for a 3500-foot test, slightly below the regular producing horizon in the Bull Bayou field, Red River Parish. The new location is A. M. McClelland 1, NEc 24-13n-11w, Red River Parish. It is on a 300-acre lease and has about 1200 acres additional leases nearby.

Much interest has been aroused by the high gasoline content of the Seaboard Oil Corporation's McGee 1, Section 3-16n-6w, Bienville Parish, recently completed below 7000 feet as a 65 million foot gas-distillate well. The production is said to show over 700 gallons of distillate per million feet of gas, and is more highly colored than regular distillate.

May repressure 4400-foot sand with residue gas.

Shreveport.—Engineers of Ohio Oil Company, Magnolia Petroleum Company and United Gas Public Service Company are studying the feasibility of using the residue gas from the gas-distillate wells in the recently opened lower Marine horizon at Cotton Valley for repressuring

NORTH LOUISIANA Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BOSSIER PARISH (Sligo)—		
Ark. La. Gas Co., Tom Wilson 1, 8-17n-11w	¶26½	4274
United Gas P. S. Co., Webb Unit 1, 23-17n-12w	¶20	5172
A. C. Skannal I-1, 25-17n-12w	385	5175
CADDO PARISH (Rodessa)—		
Gulf, Campbell 1, 4-23n-16w	585	6050
Lion Oil Ref. Co., Holm 1, 9-23n-15w	870	6042
R. W. Norton, Starcke 4, 17-23n-15w	488	5918
CADDO PARISH (Pine Island)—		
Dr. C. C. Crews, Pender 3, 11-20n-15w	175	2202
GRANT PARISH (Urania)—		
Grantland Prod. Corp., Swope-Labrot 2, 18-9n-1e	30	1607
LA SALLE PARISH (Urania)—		
Air Lift Oil Co., Urania Lbr. Co. 10, 18-10-2e	75	1515
Urania Lbr. Co. 11, 18-10n-2e	30	1517
Placid Oil Co., Winberry 4, 18-10n-2e	15	1519

*Failures; †Junked; ¶Million cu. ft. gas.

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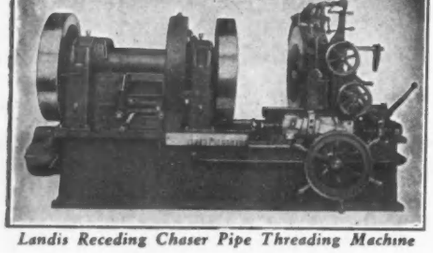

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the 4400-4500 foot level that has been producing oil since 1925.

Until Ohio Oil Company's R. L. Holloway 6, NE SW 23-21n-10w, in the heart of the old field, was completed last year in the Travis Peak at 5550 feet to open the lower producing possibilities of that field, the limits of the 4400-4500 foot horizon in the Glen Rose had been fairly well defined, and production had dropped to 375 barrels daily. Holloway 6 has been a consistent producer since its completion, ranging in daily yields from 505 barrels to 585 barrels daily.

Aside from placing a spacing rule of one deep well to each 40 acres, no regulations have been promulgated for that field since the lower horizons became productive and no regulations for gas-distillate production have been issued. As more wells are added disposal of the gas has become more of a problem, although an extraction plant has been erected there.

Total allowable for state set at 240,900 barrels.

Shreveport, La.—Although the new Lisbon field in Claiborne Parish, Louisiana, was given a daily allowable of 1000 barrels for May, the daily per well allowable in the field was set at 300 barrels, according to regulations promulgated by the minerals division, Louisiana Conservation Commission last week.

Regulations of the conservation commission set forth estimated bottom hole pressure as 2300 pounds per 20 acres and limit production to each 20 acres (the 20-acre space rule having also been promulgated by the commission), with 75 barrels per day alloted on the bottom hole pressure basis. Gas withdrawal per well per day was set at 600,000 cubic feet.

The single-acreage allowable production basis was set at 11.25 barrels with .03261 barrels per pound of bottom hole pressure. While the commission is limiting wells to one to each 20 acres, exceptions may be made for tracts less than 20 acres but not less than 10 acres whereby one well will be allowed. In cases of less than 10 acres property must be pooled with adjoining acreage in order to have a test.

Actual tests of bottom hole pressure and gas-oil ratios in Lisbon will be made before May 15, the data obtained by these tests to be made the basis for figuring the allowable for June.

In order to increase the bottom hole pressure as much as possible some operators have resorted to acidizing in order to get as large an allowable as possible.

Rodessa Still 50,000 Barrels

The May allowable order of Conservation Commissioner William G. Rankin, besides setting the Lisbon allowable at 1,000 barrels for May, left Rodessa (Louisiana side) at 50,000 barrels and the rest of North Louisiana at 22,500. The two latter allowables have been in effect several months.

With 73,500 barrels set for all of North Louisiana, including Lisbon and Rodessa, South Louisiana fields were given an allowable for May of 167,400 barrels, making the state's total allowable 240,900 barrels.

ARKANSAS FIELDS

Alice Sidney Oil makes third location for Schuler.

El Dorado.—A third location for the Schuler area, where Lion Oil Refining Company recently completed Edna Morgan 1, Section 18-18-17, at 5559 feet as an oil well, was made last week by Alice Sidney Oil Company for Edna Morgan 1, NE SE 18-18-17, ¼ mile east of the discovery well.

The Texas Company is leasing in Township 19, Ranges 16 and 17, Union County, and C. D. Baldwin is leasing in Township 19, Range 14, of the same county.

In Calhoun County, E. J. Moran took 2500 acres in Township 14, Ranges 12 and 13. In Ouachita County, where he took some acreage several months ago, H. M. Bryant of Fort Worth has recently taken about 2000 acres in Township 15, Range 19.

Standard Oil Company of Louisiana has a shooting unit working east of Texarkana in Townships 15 and 16, Ranges 27 and 28, west of the Garland City field.

Carter and Burdick, having a block of approximately 6000 acres in Clark County, Arkansas, have let contract to E. O. Olds for Ozan Lumber Company 1, Section 25-9s-18w, which is planned to go to 3000 feet or deeper into the Paleozoics.

Plans 5000-Foot Test

El Dorado, Ark.—W. D. Wingfield last week announced location for Southern Kraft Company 1, Section 18-16-14, Union County, Arkansas, as a contemplated 5000-foot test. This location is east of El Dorado.

Nivla Oil Corporation's Merchants and Planters Bank 1, SE SE 18-15-26, Miller County, which logged base of massive anhydrite at 3927 feet, cored sand with a brackish water taste from 4028 to 4037 feet and was drilling ahead below 4100 feet.

Root Petroleum Company has a geophysical crew working in Townships 18 and 19, Ranges 14 and 15, Union County.

3 Arkansas Permits

El Dorado.—Three drilling permits were authorized last week by the Arkansas Board of Conservation, as follows: W. L. McClanahan, Capps Brothers 1, located NWc SE SW 11-20-28, Miller County; Frank F. Silver, Joseph Chambers Estate 2, located SW NE NW 17-2n-7w, Logan County; and W. E. Lokey, Trustee, Shepard-Purifoy 1, located center NE NE NE 17-11-20, Nevada County.

Benedum & Trees Oil Company was granted permit to deepen Grove Land & Timber Company 1, north half SE NW 10-14-20, Nevada County, this being the discovery well of the new Troy field.

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SOUTHEASTERN STATES

Abandon test in South Mississippi.

* * *

Lamar County salt dome test finds marker low.

Jackson, Miss.—John P. Wemple, Trustee, last week abandoned at 5224 feet in sandy lime, his Southern Forest Land Company 1, SW SW SW 29-4n-2e, Amite County, southwest Mississippi, which had been started after finding of a salt dome in the Gulf Coast area of Mississippi in Lamar County. Contract depth was 5200 feet. Hole had to be sidetracked after the well had reached 4250 feet.

Fred E. Courson plans to start soon on a proposed 5000-foot test on a block of 21,000 acres assembled around Sections 32 and 33-5n-3e, Franklin County, south Mississippi. Location will probably be on Homochitto Lumber Company land which comprises the bulk of his block.

Gulf Oil Corporation is reported taking re-assignments on acreage turned to Gordon S. Bowdish, in Jackson County, Mississippi, and western Mobile County, Alabama. H. R. Fine is taking leases in Township 9 south, Ranges 14 and 15 west, Hancock County, a Gulf Coast county of Mississippi. Gulf Oil Corporation, which is said to have leased approximately 60,000 acres in Perry, Greene, Marion, Wayne and Forest Counties, has just added 10,000 acres additional in Marion County, around Townships 2 and 3 north, Range 17 west. Pelican Oil & Gasoline Company 3 years ago drilled Pinelands, Inc. 1, in Section 22-3n-17w, to 2606 feet, the only test ever drilled in that county.

Louis and Lloyd E. Wood of Kansas, has assembled over 20,000 acres in Townships 9 and 10 north, Range 10 east, Copiah County, and 17,000 acres in Township 10 north, Ranges 20 and 21 west, Simpson County.

The California Company recently had a seismograph unit working in Township 8 north, Range 8 east, Lincoln County. Gulf Oil Corporation has two gravimeter units working in Pike and Copiah counties. Sun Oil Company has one gravimeter and two torsion balance units working in Lamar County. One of Sun Oil Company's seismograph units recently left Mississippi. Phillips Petroleum Company has a seismograph unit working in Perry County and a torsion balance unit working just north of the George County line.

Running Lower

Jackson, Miss.—Sun Oil Company and associates' Talley 2, NW NE NW 33-4n-15w, Lamar County, Mississippi, last week topped anhydrite at 2975 feet, in a 20-foot core cut from 2970 to 2990 feet; elevation is 402 feet, which made the sub-sea depth of this marker 2573 feet as compared to sub-sea depth of 1338 feet in Scanlan and Semmes 1 of the same operators drilled in Section 28-4n-15w, which discovered a salt dome. The latest well logged top of the calcitic cap rock at 2692 feet. This cap rock had small streaks of asphalt. A 20-minute drill stem test from 2725 to 2990 feet showed 190 feet of mud and operators were planning to core ahead.

Cleve Love and F. S. Tatum plan an early test to the Tuscaloosa or possibly to 7000 feet on a block of over 15,000 acres centering around Section 9-1s-8w, George County, southeast Mississippi.

Florida

Tampa, Fla.—Florida Oil Discovery Company is moving in machinery for a test, Sholtz 1, SW NE 9-15s-13e, Levy County, Florida, near Cedar Key. The new location is about 1500 feet north of a test on the same fee which was drilled to 4010 feet in 1932.

In Nassau County, Florida, St. Mary's River Oil Corporation's Hilliard Turpentine Company 1, NW NW SE 19-4n-24e, has sidetracked and cemented lost bit at 1408 feet and is now drilling ahead below 1431 feet in soft lime.

Oil Development Company of Florida plans to test reported showings of oil and gas in breaks just below 2500 feet and just below 2900 feet in Gulf Exploration Company 2, SE SE 17-24s-25e, which has total depth of 6124 feet, the last 22 feet being granite composed of about one half feldspar, forty percent quartz and 10 percent oligoclase with small amounts of biotite and magnetite. Three thousand feet of six and five-eighths inch casing is on location and will be set and perforated at the depths of 2500 and 2900 feet. Other showings were also reported deeper in the hole.

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NEW MEXICO

Lea County work being more widely distributed.

* * *

Monument north end gets another good producer.

Hobbs, N. M.—Field work in Lea County is becoming more generally distributed among the dolomite and sandy-lime fields, and during the past week there were 15 new operations and 13 wells completed as flowing producers. There were 19 new locations and 12 completions the previous week. Field operations have been greatly expanded in recent weeks because of a large portion of the work being shifted to the sandy-lime areas, where drilling time is greater by reason of the use of cable tools for completing wells.

Continental Oil Company's State 1-C-16, C SW NW 16-20s-37e, near southeast edge of production in the Monument field, is rated as an unusually large oil and gas producer after being successfully capped after flowing wild and burning for one week. The well broke loose and caught fire on the morning of April 15 while workmen were attempting to snub in a string of drill pipe, with the hole bottomed at 3809 feet. The fire was extinguished about daylight April 23 after professional fire fighters used a third shot of 150 quarts of nitro, when previous shots of 75 quarts and 100 quarts of explosives failed to separate the prolific flow of oil and gas from the flames. The task of checking the flames was aided by the pressure and volume of gas being sufficient to carry the oil to such a height that all production was consumed above the ground.

Work of Placing Shot

The successful nitro shot was moved into position on a track made up of tubing. Explosives were placed in three containers on a metal frame which in turn was mounted upon auto wheels and axle. Rubber tires were omitted to permit the wheels to follow the track. The explosives were arranged upon the horseshoe-shaped frame so as to form a cluster around the flow of oil and gas and elevated immediately below the flames. Asbestos insulation covered the explosive containers to prevent a premature detonation by the intense heat. Insulated wires extended from three clusters of nitro through a long section of tubing, which served as a handle for guiding the gig into position, and the blast was touched off with a battery. Workmen were not allowed to go near the wild well for several hours after the flames were extinguished for fear of fire breaking out again. In the meantime, streams of water soaked the area around the well. The removal of the shattered surface connections and a lead-line from the casing by nitro shortly after the original explosion to permit the production to escape directly upward caused considerable damage to the 5½-inch oil string. However, temporary connections were installed, and the well was shut in about 6 p.m., or within 12 hours after the fire was extinguished.

During the interval between the successful nitro shot and the capping of the well, production in the form of a thin oil spray was carried by the wind for about 8 miles from the location. Production was rated at about 600 barrels of pipe line oil per hour, and between 50,000,000 and 75,000,000 feet of gas daily, according to H. B. Simcox, Fort Worth district superintendent.

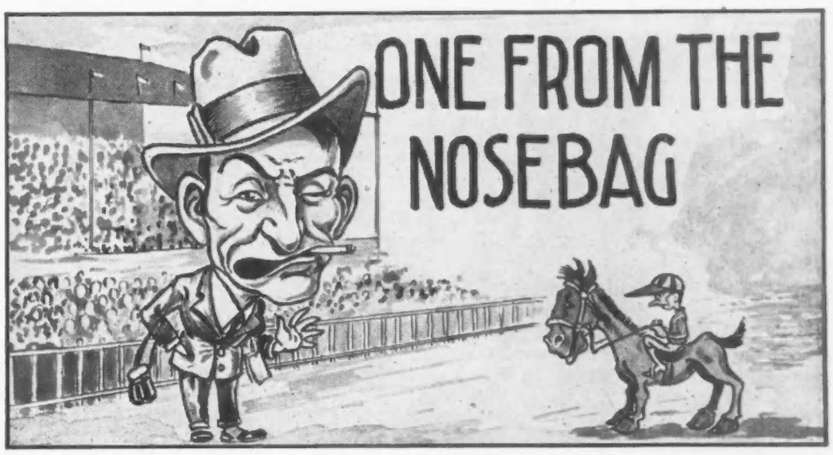
Another Prolific Monument Producer

Extreme north end of the Monument field scored another prolific producer the past week when The Texas Company's State 2-K, C NE SE 18-19s-37e,

NEW MEXICO Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
LEA COUNTY (Eunice Field)—		
Gulf, W. W. White 2, c ne se 25-20s-36e	250	3845
State-Bell 1-F, c se sw 36-20s-36e.	480	3850
Phillips, State-Edna 1, c nw nw 30-20s-37e	600	3850
LEA COUNTY (Eaves- South Jal Field)—		
Continental et al, McCallister 4-A-24, c n½ ne se 24-26s-36e	500	3245
LEA COUNTY (Penrose-South Eunice Field)—		
Mack Stauffer et al, L. E. Grizzell 1, c nw ne 8-22s-37e	400	3736
LEA COUNTY (Mattix Field)—		
Shell, J. F. Black 2, c sw se 21-24s-37e	1700	3484
LEA COUNTY (Monument Field)—		
Amerada, State 4-V, c sw ne 36-19s-36e	4500	3908
Barnsdall, A. Cooper 8, c se se 12-20s-36e	14,400	3885
Continental, State 1-C-16, c sw nw 16-20s-37e	14,400	3809
Gulf, T. Anderson 6, c ne ne 17-20s-37e	2200	3862
Humble, State 3-F, c nw sw 17-20s-37e	1000	3860
Repollo Oil Co., Roach 3, nw sw nw 21-20s-37e	300	3870
The Texas Co., State 2-K, c ne se 18-19s-37e	2500	4020

*Failures; †Junked; ¶Million cu. ft. gas.



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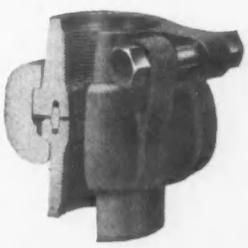

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* Less friction.

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Houston UNIBOLT **Texas**

west offset to an outpost producer, flowed 55 barrels the first hour and increased to 73 barrels the second hour. Gauge was taken through open 2½-inch tubing at 4005 feet, with the hole bottomed at 4020 feet, or 320 feet below sea level. The well was not shot or acidized. Gas/oil ratio was 745 feet per barrel. Barnsdall Oil Company terminated its drilling program in the prolific section of the field by completing A. Cooper 8, C SE SE 12-20s-36e, flowing 594 barrels of pipe line oil in one hour via 7-inch casing from lime at 3795-3885 feet. The well later gauged 65 barrels per hour through ½-inch choke on 2½-inch tubing.

Three of the 7 new locations assigned the Monument area the past week are on the extreme northwest edge of the structure, and each offset comparatively small producers. Sun Oil Company has awarded contract for the drilling of J. L. Barr 1, C SW SW 24-19s-36e. Amerada Petroleum Corporation staked the other two locations for the area, and are identified as C. H. Weir 2-B, C SE NW 26-19s-36e, and State 4-T, C NE NW 25-19s-36e. The latter has also started operations on Laughlin 3, C NW NE 9-20s-37e. Humble Oil & Refining Company has started work on State 4-F, C SW SW 17-20s-37e, which will require 3 offsets. Other new projects includes Repollo Oil Company's W. P. Byrd 5, NW SW NW 11-20s-36e, and Continental Oil Company et al's H. M. Britt 5-B-18, C SW NW 18-20s-37e.

Expensive Drilling

Repollo Oil Company's Barber 7, NE SW NW 8-20s-37e, last undrilled location in the area, is building up a reputation as one of the most expensive tests because of quantity of cement, clay, weighting compounds and fibretex used at intervals below 2616 feet in combating gas blowouts and crevices. More than 500 tons of clay and manufactured compounds, and carloads of cement have been used in drilling to 3840 feet, where operations were halted the past week to run a squeeze job with 750 sacks of cement, with about 335 sacks going into the formation at 1500 pounds pressure.

Phillips Petroleum Company's State-Edna 1, C NW NW 30-20s-37e, located on the north end of the Eunice field, flowed 22 barrels per hour through open tubing from lime at 3850 feet, or 307 feet sub-sea, after re-acidizing with 5000 gallons of acid solution. Gas volume is rated at 1,000,000 feet daily. Humble Oil & Refining Company's State 1-G, C NE NW 23-21s-36e, was the only new test assigned the Eunice field the past week.

Sandy-lime territory to the north and south of the town of Eunice received a liberal share of the new field work the past week. To the north in the Hardy area, Magnolia Petroleum Company has made location for Carson 4, C SE SW 28-21s-37e, and Stanolind Oil & Gas Company is starting work on E. C. Hill 1, center Lot 15, 5-21s-37e, offsetting The Texas Company and Ajax Drilling Company's J. P. Alexander 1, which is flowing 43 barrels of oil daily by heads through casing after nitro shot in sandy-lime at 3705-3755 feet. The latter may be placed on pump, as the gas volume is not adequate to enable the well to make its proration quota, although the fluid level forecasts an attractive pumper. In the Penrose area, located south of the town, Repollo Oil Company is starting operations on A. L. Christmas 2, NE SE NE 28-22s-37e.

Magnolia Petroleum Company's State 1-C, NW NW NE 24-17s-34e, second producer for the Vacuum area, was treated with acid a third time, using 6000 gallons, early last week at a plugged-back depth of 4778 feet. Prior to this latest acid treatment the well flowed 37 barrels daily.

The Mattix area, involving a broad section between the Langlie and Penrose fields, was assigned 3 new tests, including El Paso Natural Gas Company's Jim Camp 1, C SW SW 6-24s-37e; Schermerhorn Oil Corporation's E. Woolworth-Phillips 1, C NW NE 28-24s-37e; and Culbertson & Irwin's R. L. Mosley-Repollo 1, SE NE SW 34-24s-37e. Continental Oil Company et al have made location for W. A. Cline 1, C NE NW 15-23s-37e, situated on an unexplored federal permit that will be up for expiration shortly. In the Langlie, or East Jal area, Gulf Oil Corporation has started operations on Westfall 1, SE SW SE 15-25s-37e.

ROCKY MOUNTAIN FIELDS

Two large flowing wells in Lance Creek field.

* * *

Kevin-Sunburst off for a busy drilling season.

Casper, Wyo. — Two large flowing wells were completed in the Lance Creek field, Niobrara County, eastern Wyoming, and four wells started in that field while operations in other Rocky Mountain areas were largely routine during the week.

The Ohio Oil Company's Putnam 8, SW SE 4-35n-65w, completed for 90 barrels per hour from the basal Sundance sand logged at 4020-74 feet. Hole bottoms at 4078 feet, 4 feet in the red beds. Deepened from the basal Sundance at 4019 feet, Carrie Putnam 6, NW NW 4-35n-65w, flowed 100 barrels per hour. The well drilled out of the basal Sundance at 4060 feet stopping 5 feet in the red beds, encountering 41 additional feet of oil saturation and more than double production. The well completed a year ago for 950 barrels when it stopped in the sand.

Ohio Oil Company is rigging up to deepen Richard & Comstock 2, NE SW 32-36n 65w, from 3650 feet where it completed in the first Sundance for 140 barrels of black oil initial in 1932. Basal Sundance carries 40 gravity light oil. The company also will deepen Carrie Putnam 2, NEc SW NW 4-35n-65w, which completed in 1930 for 20,000,000 cubic feet of gas daily in the Muddy sand at 3420 feet. Both wells will be carried to the basal Sundance.

On the Allen Lake gas structure, Carbon County, central Wyoming, Medicine Bow Oil Company's Hintze-Government 1, CNE SE 18-22n-78w, is at critical stage testing oil saturation encountred in the basal Sundance sand at 2180 feet. The well gauged 20,000,000 cubic feet of gas daily on Christmas day when it tested the first Sundance sand at 2033-58 feet, and extended the field 4 miles to southeast.

Operating the Big Medicine Bow field, Carbon County, jointly, Ohio Oil Company and The California Company have 2 wells nearing completion level. William Kyle 2, CSE SE 26-21n-79w, is drilling at 5438 feet and Union Pacific-Cronberg 4, CSW SW 25-21n-79w, is drilling at 5117 feet. The Sundance series is topped at around 5500 feet.

In the south Casper Creek field, Natrona County, Empire State Oil Company's Unit 3, SE NE 33-34n-85w, an old Sundance producer, completed deepening to Tensleep sand at 2667 feet and is rated for 50 barrels of black oil daily from the lower sand.

Kevin Sunburst Active

Following the increase in activity in the Kevin Sunburst field last week when operators completed 5 wells, operators in that field, located in Toole County, northern Montana, are preparing for an intensive drilling season. Six new locations have been spotted in the field this week of which 2 are underway.

Wildcat operations throughout the state showed evidence of reviving as reports indicated resumption of operations in several heretofore delayed tests as well as reports of tests to be started soon in other sectors. Fifty gas wells are to be drilled in the Hardin gas field this summer to supply the recently constructed Holly Sugar Corporation factory north of Hardin. In addition 2 deep tests of the area are planned for oil.

Further developments of the proposed sale of Indian Lands on the southwestern edge of the Cut Bank field, included the possibility of the entrance of Shell Petroleum Corporation into the field. Representatives of the company are reported in the area looking over the territory. Oil men in the region believe that entrance of this company into the field will include construction of a refinery in the area and developments are being watched with considerable interest.

MOUNTAIN STATES
Completions

MONTANA

Company, Well and Location	Init. Prod. Bbls.	Depth
GLACIER COUNTY (Cut Bank Field)—		
Wm. Hanlon, Allotted 2-131, lot 9, sec 7-32n-5w	87	2876
TOOLE COUNTY (Kevin-Sunburst Field)—		
A. Beardeslee, Swears 5, se nw sec 9-35n-2w	75	1652
Wm. McKnight, Havland 1, sw se nw sec 19-35n-2w	40	1640
Big West Oil Co., Dahlquist 6, nw nw se sec 21-35n-3w	25	1788
A. E. Crumley, Fryberger 9, e nw se sec 24-35n-3w	40	1598
Engelking & Pfabe, Seabrook 11, s se se sec 19-35n-2w	*	1528

*Failures; †Junked; ¶Million cu. ft. gas.

PARNOT DONIGAN, Mesog Donigan and Mac L. Coker, all of Corpus Christi, have formed the Donico Production Company. The company is operating mainly in the Saxet field, where it has several producing wells.

CALIFORNIA FIELDS

Wilmington will be factor in heavy crude market.

* * *

Small yield from Continental's Kern County wildcat.

* * *

Union preparing to test ninth sand at Dominguez.

Los Angeles.—Activity in the Wilmington field continues to forge rapidly ahead and it promises to be a major productive area in the Los Angeles Basin.

Wilmington will be a definite factor in the low gravity crude oil market, due to the demand for this type of oil for blending in the cracking process.

Limits of the field have yet to be defined as completions in areas regarded as having only moderate possibilities have intensified activity.

Fears that the area would be short-lived have been dispelled by developments. The uniformly low gas-oil ratios in recent completions indicate that water encroachment will be slow and the enforcement of spacing rules will go far in prolonging the life of the field.

Daily average production of Wilmington recently was 20,222 barrels.

Interest in the western townlot portion of the field is swinging north. Tests as far as three blocks past the outpost well of Selegna Associates should extend the limits of the north-west area. A number of good completions in the central-eastern area within the next few days are expected.

Two Barrels Hourly at Wasco

In the Wasco district of Kern County, Continental Oil Company's wildcat K.C.L. A-1, in Section 8-27-24, was put on a production test Saturday and produced approximately 2 barrels per hour of 28 gravity oil, along with considerable mud. This proves the presence of oil, but it will be impossible to judge the amount from this well owing to the unfavorable conditions of the hole completion. It is understood that this well may be abandoned and another test started. The well was brought in at 9591 feet. The previously stuck 4-inch drill pipe was cemented at 9303 feet and 309 feet of 2¾-inch liner, including 88 feet of perforated, was landed on bottom and the perforations washed with a mud solvent.

Los Angeles.—Western Gulf Oil Company has proved a new field in California in the Cantua Creek area in Fresno County with its Southern Pacific Land Company 3, perforated between 6459 and 6480 feet. The well is swabbing 459 barrels of 35 to 36 gravity oil, 337 barrels of water, and very little gas. Production is coming from the Temblor formation.

The company has about 8000 acres under lease in a large block.

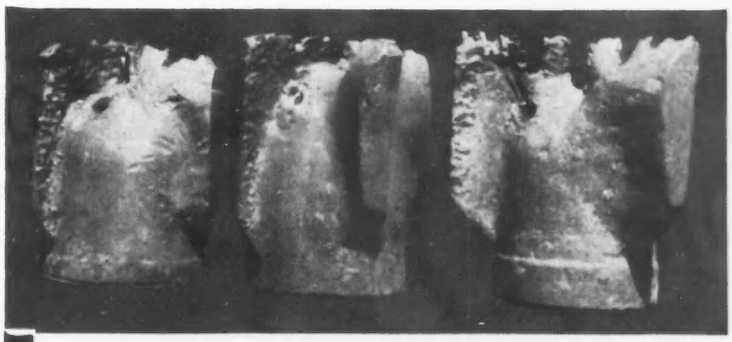
Greeley Not Defined

The extent of the Greeley field still remains a puzzle with the completion of five wells below 7700 feet. The theory that the main portion of the field is to the south and west of the discovery well has been abandoned ow-

CALIFORNIA
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
DOMINGUEZ—		
Shell, Reyes 89	330	7550
HUNTINGTON BEACH—		
Texas Co., Brown 8	200	4148
Union, Copeland 24	175	4249
TORRANCE—		
Calmore Oil Co., C. O. C. 1	200	5278
WILMINGTON—		
General Pet. Corp., Ford 1	1510	3600
Royalty Service Co., Com. 3	110	3635
Buckley 1	625	3595
Union Pacific R. R. Co., No. 5	620	3510
LOS ANGELES COUNTY—		
Drillers, Inc., No. 1	*	1640
TORRANCE—		
Abrams & Associates, Potter 2	*	4450
FRUITVALE—		
Pal-Pen Oil Co., No. 1	100	3167
Trico Oil & Gas Co., Knowles 3	300	3190
Western Gulf, K.C.L. B-25	300	3920
KERN FRONT—		
Tide Water Associated, No. 52	100	2185
MOUNTAIN VIEW—		
Mohawk Pet. Co., Clendennon 9	175	5998
MIDWAY SUNSET—		
C. C. M. Oil Co., No. 23	440	2650
Shell, Freeman 13	40	1840
PIRU—		
Pacific Western Oil Co., Temescal 10	200	2900
RINCON—		
C. C. M. Oil Co., Hobson B-13	950	4400
SOUTH MOUNTAIN—		
Calco Pet. Co., No. 4	315	4105

*Failures; †Junked; ¶Million cu. ft. gas.



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ing to the poor showing of Standard Oil Company's K.C.L. 11-2. It was later thought that Standard Oil Company's K.C.L. 11-1 was on the southeast edge of the structure. It is possible that this may be the situation, but the showing of Standard Oil Company's K.C.L. 11-3 has served to add to the confusion, and the approaching test on Standard Oil Company's K.C.L. 12-1, a mile south of the discovery, may further upset calculations. Evidently more wells will have to be drilled before conditions will be accurately known. Standard Oil Company's K.C.L. 11-3, in Section 20-29-26, with 9-inch casing cemented at 7626 feet, is being cored ahead at 7840 feet in hard gray oil sand. On a formation test April 22, with the tester set at the shoe and open for four hours, the well flowed 65 barrels per hour, with 10,000,000 to 14,000,000 cubic feet of gas, through a ½-inch bottom hole choke. Gravity of the oil averaged 44.5, cutting from 4 to 6 percent mud and water.

Several good wells have recently been completed at Kettleman Hills. All completions having been in the northerly portion of the field. Kettleman North Dome Association's Kenda No. 85-32J, on the westerly flank of the structure, has been brought in at 8500 feet for 1700 barrels per day. Standard Oil Company's No. 8-19J, located at the northern tip of the field, was recently completed also at 8500 feet, and is good for 1000 barrels daily.

Deep Dominguez Hole Testing

Preparation to test a production zone below 10,000 feet at Dominguez, the deepest yet discovered in this field, was revealed by Union Oil Company with the setting of 6⅝-inch casing in Callender 50 at 10,050 feet. The well is bottomed at 10,435 feet, giving it a producing horizon of 385 feet.

The deepest producing zone at Dominguez at the present time is the eighth, the wells of which are drilled below 7000 feet. Union Oil Company has completed several wells in this zone, the most recent of which Callender 53, drilled to 7550 feet, is believed to have a potential production in excess of 5000 barrels. It produced 4200 barrels without being opened up to capacity. The gas production is 2,800,000 cubic feet. It is now beaned down to 2100 barrels a day. The gravity of the oil is 30.3.

Union Oil Company's engineers are withholding identifying the new zone as the ninth until further tests have been made. It is considered possible an intervening zone might have been passed up in going to the greater depth.

If Callender 50 is a commercial producer, it will set a number of records. It will be the first well in the Los Angeles basin to produce from below 10,000 feet. It will be the second deepest commercial producer in the world, one of the five in the world producing below 10,000 feet. Associated Oil Company's McGonigle 12 in Ventura Avenue field, the present record holder, is only 134 feet deeper than Callender 50.

The 6⅝-inch casing is the second string set in Callender 50. The first string of 8⅝-inch was set at 6860 feet. The weight of the 6⅝-inch casing is estimated at 150 tons.

Two Deep Ones Fishing

Of the four deep tests below 10,000 feet in California, two of them are fishing for drill pipe. Union Oil Company's Bell 100 at Santa Fe Springs, with bottom at 10,789 feet, is fishing and cutting stuck drill pipe. It is understood the company will remove all of the drill pipe possible, and then side track in an effort to make more hole. In Kern County, Lerdo area, Arkelo Petroleum Company's No. 1, with bottom at 10,056 feet, is trying to recover stuck drill pipe.

In the Ten Section area, Kern County, Superior Oil Company and Union Oil Company's K.C.L. 8, Section 11-30-26, is drilling at slightly less than 11,200 feet. In this hole, 7-inch was cemented at 10,380 feet.

FINISHING LINE

Will start running South Santa Maria oil in May

Santa Maria.—Production of oil has started in the South Santa Maria oil field in California at last in anticipation of the opening of Union Oil Company's pipe line from this field to tidewater at Avila, near San Luis Obispo, during the first week of May. Wells which have been shut in since their completion have been opened and producers are storing the product for transportation through the pipe line as soon as the pumping and warming plants are completed.

Union Oil Company will take production from other companies' wells in addition to the output from its own wells. The pipe line is not a public carrier but Union will buy the entire output of the field at present.

Output of the wells is being stored in the 2000-barrel tanks at the individual wells. When these tanks are filled, the oil will be piped to the two 40,000-barrel tanks on Union Oil Company's tank farm on the Battles ranch, where the first pump station and warming plant are located.

Daily production from this field has been curtailed to 4463 barrels, with the monthly output set at 133,890 barrels. These figures apply to the production from 10 Union Oil Company wells and 6 wells owned by three independent operators.

Gas from the South Santa Maria wells is to be piped to Union absorption plant near Orcutt, where the gasoline will be extracted and the dry gas delivered to the Santa Maria and Southern Counties Gas companies. The gas pipe line is expected to be completed within a few weeks.

Fight Unemployment Compensation

Austin.—The first suits by oil companies attacking the validity of the Texas unemployment compensation law were filed last week in the Fifty-Third District Court by Lucey Petroleum Company and Ralph E. Fair, Incorporated.

Both concerns alleged that the so-called "contributions" were in fact a tax, and that the Texas constitution forbids taxing for the benefit of a special group of citizens. Unemployed workers would be the beneficiaries under this statute, it was alleged.

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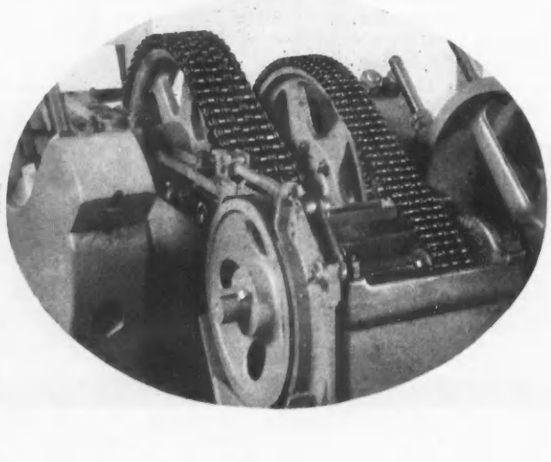

Trade Mark

EASTERN FIELDS

Three wildcats for central coal basin of Illinois.

* * *

Carnegie plans deep southwest Pennsylvania test.

Pittsburgh, Pa.—Three new tests in the central coal basin area of Illinois have been started by Pure Oil Company to explore the lower horizons at approximately 7000 feet. They may be completed in shallower sands if oil in commercial quantities is found. In two previous Pure Oil Company tests in this area, oil was found at approximately 3000 feet.

Derricks are being erected for two of the tests, both located in Wayne County, one on the E. C. Brach lease, in SW Section 26-1n-7e, Bedford Township, and the other on the Stella Billington property, in NE Section 27-1n-7e, Bedford Township. The third test is located on the B. Travis farm, in SW NE Section 33-3n-8e, Clay Township, Clay County.

Stevens Wildcat Produces

N. L. Stevens' wildcat on the Nagel farm, Section 26-5n-7e, Harrison Township, Henry County, in northwestern Ohio, gauged 52,000 feet of gas and produced 10 barrels the first 24 hours after a shot. It was completed below the Trenton sand at 1694-1744 feet and is the first producer in the township.

Gas pressure in the William Snee et al wildcat on the Summit Hotel lease on Chestnut Ridge, South Union Township, Fayette County, Pennsylvania, has increased to 1,270,000 feet in the new hole and 527,000 feet outside of the 7-inch casing and on the bradenhead. Three and one-half miles of 4-inch line from Hopewood has been completed and connected up, but no gas has yet been turned in. The well is bottomed in the Corniferous lime at 6667 feet and is miles from any gas well.

Largest Well of Week

Largest eastern fields producer of the week was completed by Ohio Oil Company as G. B. McManama 11, near Grindstone Hill, McLean County, Kentucky. It made 100 barrels the first 24 hours after a shot. In the same county, 1 mile west of Livermore, Stevenson & Company have abandoned their test on the Bob Burns farm as a failure. Three miles east of Livermore, in Ohio County, Hillerbrand & Company have abandoned their test on the M. Hipalie property, while Jenkins & Company's test on the Louisville Land Bank property, between Green and Rough rivers in the same county, has been abandoned as a dry hole.

Two small producers were completed in the Indiana field: Euclid Oil Company has a 4-barrel producer at 1656 feet in Mumford Watkins 10, Gibson County, NE SE Section 20-1s-9w, Washington Township. An estimated 5-barrel producer was completed at 1045 feet by Rex-Pyramid Oil Company in J. W. Builtman 7, Vanderburgh County, SW NE Section 20-5s-10w, Center Township.

Best Showing in Years

Ohio interest was held by the showing of oil made in Mehowa Oil & Gas Company's test on the H. E. Miller property, Holmes County, Section 3, Washington Township. Now drilling below 2873 feet, it drilled through the Red shell at 2783-90 feet, where it made the oil showing, and through the Clinton sand at 2845-56 feet, which was dry. It made 265 barrels of oil naturally from the Red shell in 7 days, averaging 37 barrels a day, without a doubt the best showing made in that section of Ohio in many years.

Kachelmacher Estate completed the largest Ohio producer of the week in Hemlock Coal Company 19, Section 25, Coal Township, Perry County. It was drilled through the Clinton sand at 3575-3609 feet and yielded 45 barrels the first 24 hours after a shot of 90 quarts. This operator is rigged up for a test on the E. H. Davis lease, Section 30, Monroe Township, same county, while in Section 18, Clayton Township, Mid-East Gas Company is rigged up for a second test on the Emma Williams property.

A 30-barrel producer was completed by the Preston Oil Company, Sunday Creek Coal Company 146, Section 6, Ward Township, Hocking County. It was bottomed below the Clinton sand at 3625-76 feet. Ohio Fuel Gas Company has staked a location for No. 150 on this lease in Lot 2, Section 10, Ward Township.

Preston Oil Company completed Alonzo Vanwinkle 4 in Section 14, Perry Township, Coshocton County, in the Clinton sand, bottomed at 3190 feet. Engines are to be changed and the well shot, after which it is expected to yield between 40 and 50 barrels daily.

Other Ohio Completions

Five other Ohio wells were completed as small producers: Graham Brothers on the Oma Jewell farm, SW Sec-

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tion 34, Island Creek Township, Jefferson County, 2 barrels; C. S. Kelly & Company on the James A. Tilfer farm, SE Section 29, Saline Township, Jefferson County, 1½ barrels; H. B. Walker & Company, on the R. E. Griffin lease, Section 11, Washington Township, Monroe County, 2 barrels; J. L. Swingle et al, on the James Murdock farm, Lot 1070, Palmer Township, Washington County, 2 barrels; Helen J. Burt's J. W. Lowe 3, Section 26, Wesley Township, Washington County, ½ barrel.

Carnegie Natural Gas Company is hauling in material for a deep test scheduled for the Oriskany sand on the W. A. Currie 100 acres, Shenango Township, Lawrence County, southwest Pennsylvania. It is 9/10 of a mile north, 25½ degrees west of this operator's test on the Heichel farm in Slippery Rock Township, which found about 55,000 feet of gas in the Oriskany before salt water intruded.

Two southwest Pennsylvania operations were completed during the week, both gas wells and both in Greene County. Ross Burns et al completed the John Phillips test, in Aleppo Township, at 3002 feet. Gordon sand was at 2844-2854 feet with 94,000 feet of gas at 2846 feet. The well may be plugged. Null & Moorhead completed the second test in this area on the John Barger farm. It is bottomed at 1970 feet, the first salt sand, where it is gauging 213,000 feet a day.

EASTERN FIELDS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
OHIO		
COSHOCTON COUNTY—		
Preston Oil Co., Alonzo Vanwinkle 4	40	3190
GUERNSEY COUNTY—		
John Sherman Taylor et al, Ray Wilson 1	*	1235
HENRY COUNTY—		
N. L. Stevens, John Nagel 1	10	1744
HOCKING COUNTY—		
[1]Preston Oil Co., Sunday Creek Coal Co. 146	30	3676
JEFFERSON COUNTY—		
Graham Bros., Oma Jewell 1	2	1405
C. S. Kelly & Co., James H. Tilfer 1	¶1½	952
LICKING COUNTY—		
Geo. Vandergrifts, T. E. Vanallen 1	¶	666
MEDINA COUNTY—		
Obermiller Bros., F. Kleinknecht 1	*	2865
Ohio Fuel Gas Co., Charles S. Ganyard 1	¶½	3488
MONROE COUNTY—		
H. B. Walker & Co., R. E. Griffin 1	2	2038
PERRY COUNTY—		
Kachlemacher Estate, Hemlock Coal Co., 19	45	3609
VINTON COUNTY—		
Vung & McCartney, Calina Cornish 1	*	....
WASHINGTON COUNTY—		
J. L. Swingle et al, James Murdock 2	2	575
Helen J. Burt, J. W. Lowe 3	½	423
INDIANA		
GIBSON COUNTY—		
Euclid Oil Co., Mumford Watkins 10	4	1656
Big Four Oil & Gas Co., Mary Richardson 1	*	....
VANDERBURG COUNTY—		
Rex-Pyramid Oil Co., J. W. Builtman 7	5	1045
P. E. Tichenor, O. & E. Eular 1	*	....
P. S. Young, Jr., H. Kramer 1	*	1200
PENNSYLVANIA		
GREENE COUNTY—		
Ross Burns et al, John Phillips 1	¶	3002
Null & Moorehead, John Barger 1	¶	1970
WEST VIRGINIA		
BOONE COUNTY—		
Owens-Illinois Glass Co., Cassingham Coal Land Co., 25	¶½	2180
CABEL COUNTY—		
Penn Natural Gas Co., Walter Adkins 1	¶1/5	3135
Lusher & Lusher, Nellie B. Morrison 1	¶¼	2609
CALHOUN COUNTY—		
Ivy Gainer et al, Ivy Gainer 3	¶½	1983
CLAY COUNTY—		
South Penn Oil Co., James Phillips 9	6	1956
GILMER COUNTY—		
Massey & Jarvis, George Lynn Heirs 1	¶	1261
Dr. J. A. Rusmissel, W. V. Gainer 1	*	1938
HANCOCK COUNTY—		
James Craigo et al, Geo. R. Crago 1	*	1430
HARRISON COUNTY—		
Lumberport & Shinnston Gas Co., D. R. Rogers	¶	3418
KANAWHA COUNTY—		
North Eight Producing Co., L. E. & L. R. Belcher 1	¶	1792
LEWIS COUNTY—		
McCall Drilling Co., John F. Alfred 1	¶½	1798
T. M. Cain, John Turner 1	¶	....
Hope Natural Gas Co., Dora Arbogast 2566	¶	....
MARION COUNTY—		
Victor E. Tennant, Price Heirs 3	¶1/3	2429
PLEASANT COUNTY—		
Grant & Atha, J. R. Smith 1,	¶¼	515
RITCHIE COUNTY—		
Fred Gamage et al, Ed Wells 1	*	1900
WAYNE COUNTY—		
F. H. Yates, Garnet Ferguson 1	*	1463
WETZEL COUNTY—		
Carnegie Natural Gas Co., N. Kennedy 3	¶	1199
Maxon Oil & Gas Co., J. D. Bartrug 3	8	....
WIRT COUNTY—		
Glenn W. Roberts, G. W. Roberts 6	¶	1819
L. B. Carroll et al, F. D. Feree 1	*	1895
KENTUCKY		
McLEAN COUNTY—		
Ohio Oil Co., G. B. McManama 11	100	....
Stevenson & Co., Bob Burns 1	*	....
OHIO COUNTY—		
Hillebrand & Co., M. Hipalie 1	*	....
Jenkins & Co., Louisville Land Bank 1	*	....

[1]Erroneously reported in last week's issue as a gas well completion.

*Failures; †Junked; ¶Million cu. ft. gas.

MICHIGAN

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ARENAC COUNTY—		
Gordon Oil's Crandall 2, nw ne se, 10-20n-4e	40	2610
Mee & Wright's Yawkey 1, c ne se, 28-18n-4e	*	2871
GLADWIN COUNTY—		
Smith & McClanahan's Brenner 4, ne se sw, 11-18n-1w	1200	3630
Teaters' Adamets 1, sw sw sw, 12-18n-1w	600	3640
Mammoth's State D-1, nw se ne, 14-18n-1w	1200	3618
Gordon's Havens A-2, se sw nw, 36-18n-1w	1102	3606
Havens A-3, nw sw nw, 36-18n-1w	1150	3606
McClure 1, ne nw ne, 25-19n-2w	*	3934
ISABELLA COUNTY—		
Ward Blunt's Mitchell 1, se se se, 29-15n-6w	*	3751
J. W. McIntosh's Thayer 2, sw se nw 23-16n-4w	*	3757
MIDLAND COUNTY—		
Brehm-Hollman's Gould 2, sw sw ne, 19-15n-2w	*	3664
Pyramid's Wayne 2, se sw sw, 9-13n-1w	*	3430
Rex Oil's Howland 5, sw se nw 23-13n-1w	90	3421
MONROE COUNTY—		
Wandle Oil's Gaertner 1, sw sw se, 19-6s-6e	*	3370
MONTCALM COUNTY—		
Midland Petrol's Houghton 1, c nw se, 12-12n-7w	*	1288
OTTAWA COUNTY—		
Muskegon Oil's Wolting 1, se se ne, 35-6n-15w	*	2605

*Failures; †Junked; ¶Million cu. ft. gas.

MICHIGAN FIELDS

Rain and lack of storage delay field work.

* * *

Three Buckeye wells make average 1100 barrels.

Mt. Pleasant.—Michigan's oil industry was suffering a two-fold handicap this week with constant rain for six days making practically every pool in the state inaccessible and lack of storage facilities in the newly developed Buckeye field of Gladwin County contributing greatly to the temporary letdown in activity.

Several important wildcats throughout the state and a few extension tests near the Buckeye area were drawing attention, however, as they neared completion the first of this week. Two of vital interest were in Gladwin County. Bell & Marks' Wineman in Section 9 of Billings township, more than a mile to the southeast of the southern producing pool, logged a Dundee show and was continuing ahead in hopes of encountering a bigger pay. In Section 23 of Buckeye midway between the two pools Hanner's Armstrong was perched on a Dundee casing point but was unable to truck 5-inch to the location, delaying completion for probably a week.

The southern Buckeye pool claimed most of the recognition the past few days with three tests completing extending the area to the southwest of production. Each of the triumvirate initialed better than 1100 barrels daily after acid treatment.

Another attempt was begun this week to pick up the elusive vein located in Montcalm County seven miles southwest of the Crystal pool. To date only one test has proved productive in the area with at least a dozen failures having been rung up in the last 12 months in the immediate locale. The new wildcat is two miles northwest of the lone producer.

One test of the three drilling in Winfield township, Montcalm County, was nearing the Dundee this week and was being closely observed inasmuch as it is the first project to attempt to confirm the strike made there last year.

FIVE-DAY WEEK

Pittsburgh. — Gulf Oil Corporation will institute its summer five-day week schedule in general and sales offices May 1, a month earlier than usual, and may continue the plan through the year if it proves feasible, Colonel J. Frank Drake, president, announced.

In former years, the short week had been granted office employes during June, July, August and September, while Colonel Drake's order announcing the plan for this year states it will "continue until further notice."

IMPORTANT WILDCAT TESTS

ARKANSAS

ASHLEY COUNTY—Joe Modisett & Phillips Pet. Co. - Stillions Lbr. Co. 1, s½ sw nw 18-17n-9w, ' a under water rog.

CLARK COUNTY — McLarry & Carlin's Bierne Lbr Co. 1, ne se ne 22-10s-21w, rur. M. W. Martin's C. L. Cabe 1, nw nw 14-10-20, dr 1000 ft shale. Carter & Burdick's Ozan Lbr. Co. 1, 25-9s-18w, rur.

CLAY CO NTY—Jno. Nelson's Underwood 1, sw ne 4-2t 8, dr 1362 ft shale.

CLEVELAND COUNTY—J. R. Lockhart's Ida Robertson 1, 36-10-11, owdd, td 3497 ft.

HEMPSTEAD COUNTY—J. R. Birdwell's Duckett 1, 24-13-24, elev 380 ft, sd 1530 ft, top Nacatosh 648 ft. Sheppard & Todd's Smith 1, ne sw se 1-11-25, dr 1350 ft.

LA FAYETTE COUNTY—King Drlg. Co.'s Walcott 1, c ne sw 36-19-26, 12½ 488 ft, sd 6200 ft, contract depth. A. M. Neely's Meek 1, ne nw 35-19-25, sd 3358 ft.

LITTLE RIVER COUNTY—J. G. Strahan's Dierks Lbr. Co. 1, 21-12-28, top red beds 1130 ft, top anhydrite 1804 ft, sdtr drill pipe, td 2330 ft.

MILLER COUNTY—Burnham & Manley's E. A. Rector 1, sec frac 17-20-28, lcn. Thad Bryant's Commercial Bank 1, 20-18-28, lcn. Allred & Allred's E. A. Rector 1, w½ w½ 16-20-28, lcn. Kimbrough et al's Capps 1, ne sw 11-20-28, 13⅜ csg 500 ft, elev 284 ft, laying gas line. W. M. Layton et al's Fee 1 to 10 inclusive (on Rector land), (permits granted), lcns. Layton Oil Co.'s Terry 1 to 5 inclusive, 14-20-28 (permits granted), lcns. E. H. Moore's Dale 1, se nw 24-15-26, top Nacatosh 1112 ft, chalk 1505-1895 ft, top red beds 2608 ft, dr 3260 ft; Dale 2, se nw 24-15-26, spd 10-in csg 104 ft, dr 1675 ft. Nivla Oil Corp.'s Merchants & Planters Bank 1, se se 18-15-26, dr 5180 ft. Odell Hinson's Montana Realty Co. 1, 3-17-28, hole clean, sd 5295 ft.

NEVADA COUNTY—Berry Asphalt Co.'s Junie Haynie 2, se sw 6-14-20, wosr 500 ft oih, td 1240 ft. CBF Pet. Co.'s Wm. Haynie 2, se ne 5-14-20, dk. W. S. King's Wren 1, sw, ne 6-13-22, ds stuck 2897 ft. S. F. Sheppard's Purifoy 1, ne ne 17-11-20, spd 10-in csg 64 ft. G. H. Vaughn's Christopher 1, sw se 3-14-20, sd 4335 ft (corrected depth). Bruce Wallace's Wm. Haynie 3, se nw 6-14-20, lcn.

PULASKI COUNTY—A. L. Kitselman 2, se se sw 2-1s-13w, 4-in csg 365 ft

OUACHITA COUNTY—H. H. Taylor's Joe McCree 1, nw sw nw.

UNION COUNTY—Alice Sidney Oil Co.'s Edna Morgan 1, ne se 18-18-17, mim. Ark-Southern Oil Co.'s G. G. Simmons 1, nw nw 15-18-13, woc 200 ft. H. C. Detrick's S. L. Robbins 1, 12-19-16, spd. Lion O. R. Co.'s Edna Morgan B-1, sw nw se 18-18-17, spd. Marine Oil Co.'s M. Justiss 1, swc lot 7, nw 18-18-17, 13/38 csg 1588 ft, dr 2000 ft. Sklar Oil Co.'s Cordell 1, ne se sw 24-17-16, pumping wo gauge, td 2151 ft.

CALIFORNIA

FRESNO COUNTY

CANTUA CREEK—Western Gulf's S.P.L. 3, 3-17-15, td 8531 ft, redr to 8525 ft, standing.

KERN COUNTY

PREMIER AREA—Allied Pet. Co.'s Allied 21, 29-27-27, dr shale 2520 ft.

LERDO—Arkelo Pet Co.'s No. 1, 23-28-26, td 10,056 ft, fsh dr pipe.

GRAPEVINE—Buffalo Oil Co.'s Tejon 1, 5-10-19, sd 4452 ft. Ohio Oil Co.'s Title Ins. D-1, 21-11-19, dr hard shale 8056 ft. Reserve Oil & Gas Co.'s No. 2-6, 2-10-19, dr shale 550 ft; Ritchie 33-1, 33-11-19, td 6030 ft, plug 4990 ft, sd; Tejon 33-2, 33-11-19, td 4505 ft, sd; Tejon 33-3, td 4431 ft, shtin; Tejon 33-4, foundation.

KERN FRONT—C. C. M. Oil Co.'s No. 1, 35-27-27, lcn.

WASCO—Continental Oil Co.'s K.C.L. A-1, 8-27-24, td 9591 ft, injected gas, well flowed 2 to 3 bbls an hour of mud and oil of 28 gravity, now washing perforations with solvent, to rerun tubing for another test. Seaboard Oil Corp.'s K.C.L. C-1, 26-27-24, dr sandy shale 6900 ft.

ROSEDALE—Continental Oil Co.'s K.C.L. B-1, 12-29-26, td 7011 ft, to cement 11¾ in at 5045 ft.

DEVIL'S DEN—Den Pet. Co.'s Bates 1, 20-25-19, dr shale 4060 ft. Geo. Goodrum's Baron 1, 24-25-18, dr shale 230 ft. Lube Oil Co.'s Gordon 1, 2-25-18, sd 4280 ft.

JASMINE—Doyle Pet. Corp.'s Quinn 1, 15-25-27, td 2956 ft, plug 2882 ft, sd.

EDISON—East Edison Oil Co.'s No. 1, 23-30-30, dr sand and shale 1166 ft.

ROUND MOUNTAIN—Eastmont Oil Co.'s Olcese 1, 16-28-29, dr shale 1764 ft.

ELK HILLS—Elk Hills Pet. Co.'s No. 1, 14-31-28, sd 7580 ft.

NO. KERN RIVER—Hub Oil Co.'s No. 1, 8-28-28, dr shale 996 ft.

RIO BRAVO—Mohawk Pet. Co.'s K.C.L. 1, 23-29-25, dr shale 8201 ft. Petroleum Securities Co.'s 23-29-25, sd 50 ft. Union's No. 1-34, 34-28-25, dr shale 6110 ft.

STRAND—Ohio Oil Co.'s K.C.L. E-2, 6-30-26, rur.

ROUND MOUTAIN—Pageman & Kennes' Pagehen 1, 10-28-29, spud 4/13, dr.

KERN FRONT—Seskayden Oil Co.'s No. 3-A, 17-28-27, td 2890 ft, rig burned.

GOSFORD—Signal Oil & Gas Co.'s K.C.L. 1-A, 21-30-27, dr gray sand 8300 ft.

TEN SECTION—Shell's Canal 21-14, 14-30-25, dr sandy shale 6610 ft. Superior Oil Co. and Union's K.C.L. 8, 11-30-26, dr shale 11,155 ft.

WEST MOUNTAIN VIEW — Sunset Oil Co.'s Sunset-Starr 1, 17-39-28, dr shale 2720 ft.

McGUNDEN—Superior Oil and A. T. Jergins' Crome Con. 1, 36-29-28, dr shale 5100 ft.

SO. MARICOPA—Trans-Line Pet. Corp.'s No. 1, 3-10-23, sd 662 ft.

SAN EMIDIO—Union's No. C-2, 33-11-22, dr shale 1820 ft.

MIDWAY SUNSET—Valley Oil Co.'s No. 1, 18-32-23, sd 2815 ft.

BAKERSFIELD—Wilshire Oil Co.'s F&P 1, 36-29-27, lcn; Cohn 1, 35-29-27, moving equip to F. & P. 1.

MISCELLANEOUS

HUMBOLDT COUNTY—Texas Co.'s Eureka 2, 22-3-1, td 7418 ft, co at 7356 ft.

KINGS COUNTY—Birch-Royer Oil Co.'s Wm. Orr 1, 5-23-17, bldg rig. Central Calif. Utilities' Lakeview 3, 11-23-19, td 1207 ft, plug 1193 ft, sd. Dudley Ridge Dev. Co.'s No. 2, 24-33-20, rur. Kettleman View Oil & Gas Co.'s No. 1, 9-22-19, td 487 ft, wocs 6⅝ in at 3400 ft. T. G. Norell's Guess 1, 7-21-21, sd 6172 ft. Glen C. Stone's Teeter 1, 25-20-20, td 1040 ft, wocs 8⅝ in at 790 ft. Tri-Counties Oil Co.'s Olson 1, 10-23-22, dr sandy shale 3035 ft.

SAN BENITO COUNTY—Tide Water Associated Oil Murphy Ranch 1, 5-12-4, td 6860 ft, to recement 6⅝ in at 6800 ft.

SAN JOAQUIN COUNTY—Coast Explor. Co.'s T.F.I. 1, 2-3-4, dr sandy shale 3284 ft. Standard's MacDonald Farms 3, 24-2-4, td 5300 ft, formation tester at 5110 to 5140 ft, recovered gas cut mud.

SOLANO COUNTY—Amerada Pet. Corp.'s Drouin 2, 25-4-2, td 4463 ft, gas well, shutin; Emigh 2, 26-4-2, td 4505 ft, wocs 7 in at 4307 ft.

SUTTER COUNTY—Buttes Oil Fields' No. 4, 2-15-1, dr hard sand 5865 ft.

TULARE COUNTY—J. W. Alford's Williams 1, 28-16-23, sd 1023 ft. R. R. Ellis' No. 1, 20-24-23, rur; E. P. Jennings' No. 1, 4-24-23, td 2707 ft, plug 2680 ft, to redr; No. 2, 33-23-23, rig.

MONTEREY COUNTY—Amil A. Anderson's No. 1, 15-24-14, dr blue shale 720 ft. Shell's Branch 2, 34-24-10, dr shale 8115 ft. Texas Co.'s Dunphy 1, 30-19-7, td 4759 ft in shale, abn.

SAN LUIS OBISPO COUNTY—Aviation Oil Co.'s Britnell 1, 10-11-35, td 1930 ft, redr to 1200 ft, sd. Barnsdall's K.C.L. A-1, 1-32-20, sd 4450 ft. I. L. Burch's No. 1, 3-10-26, td 3209 ft, 5-in including 160 ft perforated landed 3100 ft, to test. Burkholder Oil Corp.'s Clay 1, 14-10-26, dr blue shale 2660 ft. Gretna Corp.'s Miano 1, 25-30-10, dr shale 506 ft. Pismo Pet. Co.'s No. 1, 5-32-13, td 4425 ft, fsh. Temblor Oil Co.'s No. 1, 22-31-21, td 920 ft, wocs 8⅝ in at 835 ft.

SANTA BARBARA COUNTY—E. C. Arnold's Careaga 1, 8-8-33, rur. Murdock & Allins' No. 1, 16-7-30, material on lcn. Nine Springs Oil Co.'s Brinkenhoff 1, 9-7-30, sd 3300 ft. W. D. Shaffer's Houk 1, 9-9-33, sd 5003 ft. Todos Santos Oil Co.'s No. 1, 29-9-34, td 2365 ft, co. Union's O'Donnell 1, 21-10-34, td 4147 ft, wocs 8⅝ in at 3815 ft, top Monterey 3829 ft, top Franciscan 4010 ft. Valley Oil Co.'s Chief 1, 20-9-34, top 1901 ft, r.

VENTURA COUNTY—Calumet Oil Co.'s 16, 3-3-19, td 4460 ft, plug 3110 ft, reperforated and co. El Rancho Oil Co.'s Elkins 1, 9-3-19, td 5107 ft, plug 4950 ft, pumping oil and water. El Rio Oils-Canada's El Rio 1, 6-1-21, rur. Speik Oil Co.'s Speik 1, 35-5-19, dr shale 2290 ft.

SOUTHERN CALIFORNIA

NEWHALL—Barnsdall Oil Co.'s Rancho S. F. 2, lcn. Holbrook Pet. Co.'s Newhall Land 1-28-4-16, td 5089 ft, rigging heavier equip.

PICO CANYON—A. G. Burt's No. 1, 36-4-17, dr shale 1050 ft.

LYNWOOD—Calizoo Oil Co.'s Saulque 1, 9-3-13, dr shale 4320 ft.

ARTESIA—Caltana Corp.'s No. 1, 11-4-12, dr shale and sand 4560 ft.

NO. LONG BEACH—Geo. L. Clayton's

ABBREVIATIONS

The following abbreviations, signs, etc., are used in completions and wildcat reports in THE OIL WEEKLY.

*—*dry hole abandoned well.*
‡—*salt water (completions).*
†—*junked and abandoned.*
¶—*million feet of gas.*
abd—*abondoned.*
bbls—*barrels.*
br—*building rig.*
b.s.—*basic sediment.*
csg—*casing.*
co—*cleaning out.*
dd—*drilling deeper.*
dk—*derrick.*
dr—*drilling.*
fsg—*fishing.*
ft—*feet.*
hfw—*hole full of water.*
in—*inches.*
lcn—*location.*
m—*milling.*
mim—*moving in materials.*
mit—*moving in tools.*
mot—*milling on tools.*
n, s, e, w—*north, south, east, west.*
oih—*oil in hole.*
owdd—*old well drilling deeper*
owpb—*old well plugging back.*
pb—*plugged back or plugging back.*
r—*reaming.*
rog—*rig on the ground.*
rur—*rigging up rotary tools.*
rust—*rigging up tandard tools.*
sd—*shut down.*
sdtr—*sidetracking.*
sg—*show gas.*
si—*shut in.*
so—*show oil.*
so&g—*show oil and gas.*
spd—*spudding.*
sr—*straight reaming.*
sw—*salt water.*
td—*total depth.*
ur—*underreaming.*
wih—*water in the hole.*
wo—*workover.*
wocs—*waiting on cement to set.*
wosr—*waiting on standard rig.*

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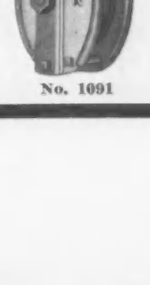

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of the
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THE AMERICAN ASSOCIATION
of
PETROLEUM GEOLOGISTS
1917-1936
By
DAISY WINIFRED HEATH

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Clayton 1, 32-3-12, dr sand and shale 4420 ft.

FOX HILLS—Country Club Oil Co.'s No. 1, dr sand and shale, 2970 ft.

EAST WHITTIER—Driller's Inc.'s No. 1, 22-2-11, td 1640 ft, abn. This test was drilled on property owned by Whittier College.

DAVIDSON CITY—Hilldon Oil Co.'s Flood Control 1, 11-4-13, dr tough shale 6090 ft. This hole tested good for 65 bbls oil at 5788 ft.

WEST COYOTE—Hogan Pet. Co.'s McNally 1, 23-3-11, dr sand and shale 4970 ft.

WALNUT—Julian & Criswell's Langstaff 1, 5-2-9, dr sand and shale 1790 ft.

HERMOSA BEACH—Leora Oil Co.'s No. 1, 31-3-14, td 5465 ft, plug 3935 ft, to test on the pump.

PALOS VERDES—McClaren Bros.' No. 1, 27-4-14, td 3970 ft, redr to 1860 ft, r.

ROSECRANS—Shell's McKinley 4-1, 20-3-13, sd 7744 ft. It is possible Shell will drill a second test in this general area.

ORANGE COUNTY—Mesa Oil Co.'s Mesa 1, 29-6-10, dr gray shale 7216 ft, slight showings of oil and gas on the ditch. Shell's Mathis 1, 23-4-10, td 5944 ft, plug 4675 ft in volcanics. Thomas & Moulton's Kraemer 1, 21-3-9, rur.

SOUTH LOUISIANA

CALCASIEU PARISH—D. & D. Oil Co.'s Lutcher Moore 1, nw of Starks, 1-8s-13w, fsh 8557 ft.

CAMERON PARISH — Magnolia's Albert Dobbertine 1, Johnson Bayou prospect, 9-15s-14w, dr shale 7798 ft. Southern Oil Co.'s State Maritime 2, 15s-10w, sd 2611 ft. Union Sulphur's Hebert 1, Big Lake area, 18-12s-8w, coring water sand 7803 ft.

EAST BATON ROUGE PARISH—Cavalier Oil Co.'s Elliott 1, n of Hope Villa, 3-8s-2e, ru.

EVANGELINE PARISH — Bel Cheney Springs Oil Co.'s Fee 1, 10-2s-1w, repairing pumps 2214 ft. Continental-Humble's Pardee Lbr. Co. 1, Reddell area, 18-4s-1w, dr shale 8418 ft.

IBERIA PARISH—Jefferson Lake Oil Co.'s Lake Peigneur 414, Jefferson Island dome, 12s-5e, dr broken sand showing oil 6970 ft.

JEFFERSON DAVIS PARISH—Louisiana Crusader's I. Langley 1, Fenton area, 36-7s-5w, dr shale 6886 ft. Stanolind's Calcasieu National Bank 2-B, China prospect, 28-7s-3w, dk; same operator's United Life Insurance 1, Hayes prospect, 16-11s-5w, abn 9942 ft; same operator's Calcasieu National Bank 2, South Jenning area, 10-10s-3w, dk.

LAFOURCHE PARISH — Fohs Oil Co.'s State Long Lake 1, Bourg prospect, 65-17s-19e, dr shale 7839 ft. William Helis' City of New Orleans 1, Marchland prospect, 19-23s-23e, doing geophysical work in hole at 7549 ft.

PLAQUEMINES PARISH—Gulf's State Bay Adams 1, in Bay Adams, 32-19s-28e, dr shale 4328 ft.

ST. BERNARD PARISH—Gulf's Lake Lery 1, Lake Lery prospect, 28-14s-14e, dr shale 6022 ft. Southern Sulphur Co.'s State 2, in Lake Borgne, 38-14s-15e, sd 3180 ft.

ST. CHARLES PARISH—Amerada-Louisiana Land & Exploration Co.'s State Bayou Des Allemands 1, Black Prince Island prospect, 13-15s-20e, dr shale 1850 ft.

ST. LANDRY PARISH—Shell's Boagni 1, ne of Cankton in Bristol area, 48-8s-4e, fsh 7318 ft.

ST. MARTIN PARISH—Joe E. Lilly et al's R. Martin 1, Section 28 prospect, 32-10s-7e, ru. The Texas Co.'s State Mongouloi 3, Lake Mongouloi prospect, 14-10s-9e, fsh 7761 ft; same operator's St. Martin Land Company 9, Henderson salt dome, 21-8s-7e, waiting on tubing 8666 ft.

ST. MARY PARISH — Texas Co.'s State Bateman Bay 1, Morgan City prospect, 21-16s-12e, leveling barge 8953 ft; same operator's Horseshoe Bayou 1, Wax Lake prospect, 40-17s-9e, repairing rig 11,735 ft.

TERREBONNE PARISH—Humble's Elender 1, Houma Gas Field, 23-19s-19e, setting 7-in 12,165 ft.

NORTH LOUISIANA

BIENVILLE PARISH—DeSoto O&G Co.'s Wm. Ashley 1, sw se 15-16n-10w, rur. Lide, Greer et al's W. I. Smelley 1, se nw sw 18-16n-4w, 10-in csg 2634 ft, dr 4983 ft. McDowell et al's Locke 1, 9-15n-10w, sd 2789 ft.

BOSSIER PARISH—Ark. La. Gas Co.'s W. H. Werner B-2, se ne 7-17n-11w, mim. Haynes Drlg. Co.'s A. J. Murff 1, 35-17n-12w, perf csg 4465-4475 ft with 17 shots, bailed dry, arr reperf csg, old td 6112 ft. Producers O&G Co.'s Johnson 1, 5-17n-11w, rur. Hill Est. 1, 5-17n-11w, dk. United's Henderson 1, 36-17n-12w, pb and set 7-in csg 4440 ft, tested dry, arr pb again. Webb Unit 1, 23-17n-12w, completed as 21 million foot gasser, td 5172 ft. Jeter Unit A-1, se sw 24-17n-12w, lcn; Skannal I-2, sw se sw 7-17n-12, lcn.

CADDO PARISH—Fallon Oil Co.'s Cupples 1, 24-16n-13w, massive anhydrite 4323-4508 ft, dry and abn, td 5675 ft. W. J. Hunter's N. B. Stoer 1, sw ne 10-15n-15w, elev 257 ft, top Blossom 2149 ft, top Paluxy 2940 ft, top first anhydrite 4027 ft, dr 4090 ft. R. W. Norton's Payne 1, se se 27-23n-16w, cemtd 7-in csg, woc, td 9482 ft. Prairie River Synd.'s Hutchinson 1, 15-15n-12w, dr 7684 ft. United's Wheeler A-1, 16-18n-16w, old well, arr co, td 5911 ft.

CLAIBORNE PARISH—Gulf Oil Corp.'s H. E. Patton 1, se nw 36-21n-5w, setting 7-in csg, td 5324 ft; H. E. Patton 2, se nw 36-21n-5w, dr 5030 ft; H. E. Patton 3, sw ne sw 36-21n-5w, dr 4522 ft; H. E. Patton 4, nw ne sw 36-21n-5w, dr 4320 ft. Mrs. Eva Bennett 1, coring 5296 ft. T. L. James & Co.'s H. W. Patton Est. 1, ne se 36-21n-5w, top saturation 5319 ft, arr set csg; H. W. Patton Est. 2, ne se 36-21n-5w, dr 2840 ft. Love Pet. Co.'s H. E. Patton 1, sw se 36-21n-5w, woc 5347 ft; H. E. Patton 2, lcn; H. E. Patton 3, ne sw se 36-21n-5w, dr 4814 ft. Lyons & Neely's Maggie Patton 1, nw sw 31-21n-4w, logged saturated formation 5251-64 ft, arr set 7-in csg td 5264 ft. McMillan & DeArmand's H. E. Patton 1, sw ne dr 600 ft; Maggie Patton 1, ne sw 31-21n-4w, flowing 22 bbls per hour, wo gauge, td 5293 ft; Vaughan 1, nw ne 36-21n-5w, woc 900 ft. Ogden & Evans' H. W. Patton 1, se se 36-21n-5w, dr 2915 ft. E. T. Oakes et al's Patton Est. 3, nw ne 1-20n-5w, spd. Red Iron Drlg. Co. et al's H. E. Patton 2, 36-21n-5w, coring 5196 ft. McDonald 1, ne ne 36-21n-5w, rur; Patton Est. 1, se ne 36-21n-5w, dk. J. C. Tippett et al's 36-21n-5w, woc 7-in csg. Magnolia Pet. Co.'s Burgess 1, 8-20n-4w, mim. J. R. Bevill et al's Alex Edmonds 1, ne ne 16-20n-5w, spd. Standard of La.'s R. D. Baker 1, nw nw 27-19n-7w, dr 6647 ft. United Gas et al's Dobbins 1, cemtd 5 3/16 in csg 5660 ft, woc, td 5776 ft.

DE SOTO PARISH—Stevens et al's Leslie Golden 1, se sw 2-11n-16w, lcn. Benedum & Trees Oil Co.'s Clifton 1, ne nw 33-13n-12w, elev 199.2 ft, top massive anhydrite 4096 ft, tested sw in ds test 5000 ft, hole clean, coring 5119 ft. Chamberlin et al's Lanier 1, sw ne 29-11n-11w, rur. Pearl Oil Corp.'s Joyner 1, 28-11n-12w, 8¼ in csg 2885 ft, abn, td 3020 ft; Joyner 2, spd coring 1037 ft. Nacatosh topped at 1016 ft. L. S. Fite and Grogan Oil Co.'s Ramsey 1, 36-11n-11w, fsg twisted off drill stem, junked abnd, td 3027 ft, arr skid over for new hole.

FRANKLIN PARISH—Jensen et al's Grayson 1, c ne 36-12n-6e, rur.

GRANT PARISH—Horace M. Smith Corp.'s & McConnell Oil Co.'s Ivy McNeely 1, swc 21-6n-3w (amended lcn), sd 30 ft cur titles. H. Weir's Quin 1, 10-7n-3w, spd and completing rur.

LINCOLN PARISH—Glassell & Glassell's A. P. Gray 1, se sw 16-20n-3w, rur. Lyons & Neely's H. W. Patton 1, c n½ nw nw 6-20n-4w, spd (Lisbon). E. T. Oakes, Easton & Evans' R. L. Sanderson 1, nw nw 30-18n-1w, dk.

NATCHITOCHES PARISH—Roy A. Raines et al's Allen Plantation 1, nw ne sw 22-9n-

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RAPIDES PARISH—R. D. Webb's Brasher 1, 22-4n-2w, fsg 5255 ft. C. L. Decker's Lee Lbr. Co. 1, se ne 21-5n-3e, dk.

SABINE PARISH—Earl F. Fox's L. B. Blankenship 1, se nw 13-9n-12w, cemtd 7-in csg at 3230 ft, drilled plug and testing at 3223-27 ft, td 3411 ft. Kirk-Greenway, Inc.'s Whitney Corp. 1, nw nw 8-9n-13, elev 290 ft, cemtd 9⅝ in csg 5180 ft, woc, td 5180 ft. A. C. Scott et al's Bowman-Hicks 1, 23-9n-13w, claim so 4 ft sand 3085-88 ft, trying make drill stem test, td 3088 ft.

TENSAS PARISH—H. M. Jones' Chicago Mill & Lbr. Co. 1, nw sw nw 20-12n-10e, 8⅛ in csg 776 ft, blew out making gas, sanded over with drill stem in hole, sd, td 787 ft.

WEBSTER PARISH—Bass Drlg. Co.'s Tom Crichton 1, nw nw 21-20n-9w, 20-in csg 240 ft, dr 4456 ft. Magnolia Pet. Co.'s G. W. Cole 2, ne nw 27-21n-10w, rur; D. G. Cox 2, 22-21n-10w, dr 5057 ft; Ira Cox 6, 23-21n-10w, mim; A. J. McCook 2, sw sw 22-21n-10w, lcn. Ohio Oil Co.'s A. J. Hodges 2, 23-21n-10w, dr 7502 ft; A. H. Gray 1, Acct. 2, 26-21n-10w, dr 7515 ft. S. P. D. Coyle 1, 23-21n-10w, dr 7245 ft; R. M. Coyle 2, 22-21n-10w, dr 6704 ft; L. M. Gardner 1, 22-21n-10w, dr 3825 ft; T. Crichton-Coyle 1, ne se 21-21n-10w, lcn; R. L. Holloway B-7, sw ne 23-21n-10w, lcn. Standard of La.'s Stewart 1, 32-21n-10w, spd, cemtd surf csg 524 ft, woc. Woodley Pet. Co.'s Gray B-4, 27-21n-10w, dr 7489 ft. United Gas' Tillman Hrs. 1, nw nw 27-21n-10w, lcn. Tillman Hrs. 2, ne ne 28-21n-10w, lcn; Tillman Hrs. 3, nw ne 28-21n-10w, lcn.

MICHIGAN

GLADWIN COUNTY—Bell & Marks' Wineman 1, 9-17n-1e, completing. Pray & Caldwell's Flynn 1, 4-17n-1e, 6-inch cased.

GRATIOT COUNTY—Bliss' Palmeter 1, 18-9n-1w, sd 1100 ft. Bila Oil's Ryan 1, 32-10n-1w, sd 1080 ft. Siegle's Kerr 1, 36-10n-1w, sd 2250 ft. Cowdrey's DeVuyst 1, 11-10n-2w, rig. Gulf's Lyon 1, 26-9n-2w, spd. Weller & Jones' Nickert 1, 32-10n-4w, spd.

HILLSDALE COUNTY—Jacob Beck's Beck 1, 15-6s-3w, dr 1200 ft. Heinig's Daley 1, 10-7s-4w, sd 1410 ft.

INGHAM COUNTY — National Minerals Corp.'s Smith 1, 9-4n-1w, sd 2450 ft.

ISABELLA COUNTY — Socony-Vacuum's Murphy 1, 6-16n-3w, pb to Stray.

KENT COUNTY — Central Michigan's Fletcher 1, 25-7n-10w, dr 2500 ft. Flanigan's Friedli 1, 26-7n-9w, dr 2200 ft. Michigan Oil Exploration's Groff 1, 35-7n-9w, fsg 5220 ft.

MISSAUKEE COUNTY—Rex Oil's Meekoff 1, 30-21n-6w, sd 1700 ft.

MONTCALM COUNTY—Charles Weller's Herzog 1, 12-12n-8w, cmpg. Jetter Development Co.'s Powell 1, 34-10n-6w, lcn. Rex Oil Co.'s Keeler-Church 1, 17-12n-5w, dr 3300 ft.

SAGINAW COUNTY — T. F. Caldwell's Birch Run Bank 1, 10-10n-5e, dr 300 ft.

WAYNE COUNTY—Pontchartrain's Boynton 1, 27-4s-8e, co.

MISSISSIPPI

AMITE COUNTY—Jno. P. Wemple, Tr.'s Southern Forest Land Co. 1, sw sw 29-4n-2e, dry abnd 5224 ft.

HARRISON COUNTY—Big Ridge Oil Co.'s Hingin 1, se se 13-7s-10w, rur to deepen, td 2150 ft.

HINDS COUNTY—State of Mississippi's Fee 2, nw nw 25-6n-1e, elev 326.5 ft, pb and tested sw 2822 ft and at 2600 ft, arr pb to 2400 ft, old td 5529 ft.

JONES COUNTY—Snow-Black Pet. Co.'s Cranford 1, s½ nw 29-7n-12w, dr 3990 ft.

LAMAR COUNTY—Sun Oil Co. et al's Mrs. K. Talley 2, nw ne nw 33-4n-15w, dr 2975 ft, lime, calcite, shale and asphalt.

PIKE COUNTY — Acadian Prod. Corp.'s Bales 1, c se nw 24-7n-2w, dk and mir.

SIMPSON COUNTY—Goodwill O&G Co.'s Berry 1, 33-2n-4e, dk and rog.

KANSAS

BARBER COUNTY—Pryor & Lockhart's Gant 1, cse¼ 7-31s-13w, mim.

BARTON COUNTY—Herndon Drlg Co & Morgan & Flynn's Robenseifer 1, cnw 7-8s-15w, ur 12-in csg 1076 ft. C. L. Price et al's Kraft 1, sw nw ne 10-17s-11w, dr 2515 ft. C. L. Carlocks' Liebel 1, se ne se 18-18s-11w, ur 8-in csg 2567 ft. Ralph Wixon & Union O & R Co's Frederick 1, nw nw nw 12-16s-13w, sso 3170 ft; dr 3340 ft. Geo. Dickey et al's Boger 1, se se ne 15-16s-13w, ur 8-in csg 2300 ft. C. L. Carlock's Ehly 1, ne ne se 5-18s-11w, td 3390 ft; run 7-in csg. C. H. Weaver's Stumps 1, ne ne ne 3-17s-12w, dr 1190 ft. Wakefield et al's Scheurmann 1, ne ne sw 31-16s-15w, dr 2340 ft. Stanolind O & G Co's Struder 1, se se sw 26-16s-13w, rot rig. S. E. Bailey's Hammeke 1, ne ne sw 12-18s-12w, sd 2190 ft. Stanolind O & G Co's Meggars 1, sw sw sw 21-20s-11w, dr 2426 ft. Continental Oil Co's Lamatsch 1, sw ne ne 26-17s-12w, rig. Hanna's Luce 1, sw sw sw 21-20s-13w, rig. Sam Murphy's Beck 1, ne ne ne 17-17s-12w, mim.

BUTLER FCOUNTY—C. L. Seibel et al's Bisagno 1, se se nw 24-25s-6e, dr 2645 ft. Vickers Pet Co's Voth 1, cnl s½ sw ne 32-24s-4e, dr 2100 ft. Sid Neff et al's Church 1, sw ne se 8-28s-5e fsg 1600 ft.

CHAUTAUQUA COUNTY—W. M. McKnab's Griffith 1, sw sw sw 11-32s-10e, set 10-et csg 746 ft; dr 1323 ft. E. I. Shaffer's Nuckalls 1, nw nw nw 12-33s-9e, ur 10-in csg 900 ft. Ira Scott et al's Lambe 1, sw nw ne 18-33s-13e, set 8-in csg 915 ft; dr 1355 ft.

COWLEY COUNTY—Tom Palmer's Lowe 1-A, sw se se 3-32s-5e, dr 3170 ft. Ryan Consolidated's Couch 1, sw sw se 13-30s-5e, 1500 ft oih, 24 hrs; shot w/50 qts 2818-42 ft. Elmer Ash et al's Bolack 1, nw nw se 22-32s-6e, dr 875 ft. Bess & Gralapp et al's Wakefield 1, ne se sw 18-30s-6e, dr 950 ft. Murta & Wilson's Turner 1, ne ne nw 30-32s-6e, br.

DECATUR COUNTY—Bruce et al's Newbold 1, cne sw 34-2s-28w, rur.

EDWARDS COUNTY—Royal Pet Co et al's Krupp 1, nw nw se 18-24s-19w, fsg 2603 ft.

ELK COUNTY—Wentz et al's Love 1, sw se ne 35-30s-9e, td 2348 ft, D & A.

ELLIS COUNTY—Empire's Samuelson 1, ne ne ne 31-11s-16w, woc. Murphy Oil Co's Weisner 1, se se sw 12-14s-19w, ur 8-in csg 3470 ft. Mazda Oil Co's Henderson 1, sw sw ne 27-11s-18w, dr 1635 ft. Noble Pet Corp's O'Laughlin 1, nw nw se 13-12s-19w, fsg 3020 ft. Wakefield's Putnam Mort Co. 1, se se nw 32-15s-17w, dr 3345 ft. Bridgeport Mach et al's Froelick 1, nw nw se 4-13s-16w, dr 2360 ft. J. C. Shaffer, Inc. Staab 1, se se se 25-12s-18w, rig. J. J. Muth's Penny 1, nw ne se 29-14s-18w, spd & sd. Elwell & Tree Oil Co's Wickham 1, sw sw ne 10-11s-19w, rur. Billings' Smith 1, se se nw 14-12s-16w, spd. Austin Drlg Co's Karlin 1, nw nw nw 13-12s-18w, Cel.

ELLSWORTH COUNTY—Orville Lee's Larkin 1, nw nw nw 15-16s-8w, sd 150 ft. Frost et al's Dolechek 1, ne ne sw 36-14s-8w, ur 8-in csg 2880 ft.

GREENWOOD COUNTY—Ohio Oil Co's Schwab 1, se sw se 9-24s-10e, P 9 bbls oil & 85 bbls wtr, 24 hrs. Shull Drlg. Co.'s Cannon 1, ne se ne 23-25s-12e, fsg 1560 ft. L. C. Balwanz's Travellers Ins Co 1, csw sw 23-26s-10e, fsg 1745 ft.

HAMILTON COUNTY—Denver P & R et al's Porter 1, sw sw ne 30-25s-41w, rot rig.

HARPER COUNTY—Carter Oil Co et al's Seihart Estate 1, csw nw 4-34s-8w, cor 4660 ft.

HARVEY COUNTY—E. I. Shaffer et al's Epp 1, se se sw 15-23s-3w, cel.

HASKELL COUNTY—Kuhn Bros et al's Meredith 1, csw¼ 10-30s-33w, td 2800 ft, 500,000 cf gas, Comp.

KEARNEY COUNTY—J. L. Murphy's Masonic Home 1, cnw¼ 1-25s-36w, rur. J. L. Murphy et al's Campbell 1, nw nw sw 32-25s-35w, td 2793 ft; 1,500,000 cf gas, comp.

LOGAN COUNTY—Rosespring Drlg Co et al's Wright 1, cse se 12-15s-35w, dr 4330 ft.

LYON COUNTY—Clyde Fred et al's Bruce 1, nw nw nw 13-18s-10e, woc. Young et al's Murphy 1-A, se nw ne 32-21s-11e, sd 1380 ft. Davis & Sory's Byrd 1, sw sw se 32-21s-11e, dr 590 ft.

McPHERSON COUNTY—Hutchison O & G Co. et al's Berg 1, sw sw se 15-20s-3w, td 3612 ft; 500 ft wih. Wamhoff et al's Nuse 1, se se sw 18-18s-4w, set 10-in csg 110 ft. Bradley Bros' Barnholt 1, sw sw se 30-20s-5w, set 10-in csg 1915 ft, co. Smith et al's Larson 1, nw nw sw 35-18s-5w, ru. Lauck & Moncrief's Krehbiel 1, se se sw 27-21s-2w, dr 1610 ft.

MITCHELL COUNTY—Geo. Seidhoff et al's Greiss 1, sw sw se 16-8s-10w, set 8-in csg 2510 ft; dr 2750 ft.

NESS COUNTY—Newton Dev Co's Tenny 1, nw nw se 19 18s-25w, ur 6-in csg 4160 ft.

OSBOURNE COUNTY—J. E. Waldron's

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PAWNEE COUNTY—Canshaw et al's Riederer 1, cw½ nw se 29-21s-19w, dr 2893 ft.

RENO COUNTY—Clyde Pulse et al's Payne 1, sw nw ne 4-22s-7w, P 135 bbls oil 1st 24 hrs; 30 bbls oil last 24 hrs. Olson Drlg Co et al's Herriman 1, nw nw nw 22-24s-8w, dr 4178 ft. Imo O & G Co et al's Watkins 1, se se se 14-22s-7w, mystery test. Westgate-Greenland Oil Co.'s O'Sullivan 1, sw sw ne 24-23s-5w, dr 3432 ft. Sinclair Prairie's Nett 1, nw nw se 32-26s-4w, dr 2610 ft.

RICE COUNTY—T. C. Johnson's Schubert 1, sw sw sw 9-20s-10w, hfw 3426-29 ft. td. L. E. Douglas' Coyne 1, ne se se 24-21s-8w, sd 2415 ft. John Hanna et al's Fulton 1, nw nw ne 24-19s-6w, dr 2768 ft. Fred Phillips et al's Hubenett 1, sw ne sw 23-20s-6w, set 8-in csg 2520 ft; co. W. E. Witt et al's Fair 1, ne se se 4-22s-8w, sd 1890 ft. Union O & R Co et al's Baker 1, sw sw ne 33-20s-6w, dr 2500 ft. Comanche Oil Co's Cramm 1, sw sw se 15-19s-9w, ru. Hipple et al's Wernet 1, ne ne nw 11-20s-6w, dr 280 ft. Empire O & R Co's Bredfeldt 1, cn½ n½ sw 7-18s-9w, dr 242 ft.

ROOKS COUNTY—Snowden & McSweeney's Hindman 1, ce½ nw 35-7s-17w, P 20 bbls oil per day, comp. Lester & Dean's Burtt 1, se se ne 29-10s-20w, dr 3611 ft. Phillips Pet Co's Manquist 1, sw sw nw 9-9s-17w, dr 1880 ft. Jones Bros Drlg Co's Wiss 1, nw nw nw 8-10s-8w, set 8-in csg 2643 ft; dr 2721 ft. Basin Oil Co's Baxa 1, ne ne ne 23-9s-17w, sd 2975 ft. Buckner & Schoff's McConnell 1, ne ne ne 34-6s-18w, sd 3365 ft. Twin Drlg Co's Doughty 1, sw sw sw 15-8s-19w, td 3490 ft, D & A. S. C. Hoel et al's Ives 1, sw sw ne 11-7s-18w, spd & sd. Brunson Drlg Co et al's Casey 1, se se ne 22-9s-16w, dr 409 ft. Graham et al's Fike 1, sw sw sw 9-9s-17w, fsg 2290 ft.

RUSH COUNTY—S. A. Murphy et al's Roth 1, nw nw sw 21-16s-18w, co Duee & Brouk's Lebsack 1, se se ne 13-16s-16w, set 15-in csg 356 ft.

RUSSELL COUNTY—S. A. Murphy et al's Deines 1, se se sw 36-15s-15w, ur 8-in csg 2382 ft. Goldstein & Vernon O & G Co's Steinert Estate 1, ne se sw 34-15s-15w, dr 310 ft. Aylward et al's Jones 1, se se nw 22-14s-13w, rig. Equity Gas Co's Harbauk 1, nw ne sw 19-13s-12w, sd 1580 ft.

SCOTT COUNTY—Olson Drlg Co et al's Nolan 1, nw nw ne 13-19s-33w, mim.

SEDGWICK COUNTY—Cameron et al's Smith 1, sw se se 13-27s-2e, co 3087 ft. Swearer et al's Thome 1, sw sw nw 19-28s-1w, td 3605 ft; 3000 ft fih, 75 percent wtr. Roxanna Drlg Co et al's Woodman 1, sw nw sw 26-26s-1w, sd 2469 ft. Empire O & R Co's Kimel 1, nw nw nw 4-29s-2w, cor 4102 ft. E. B. Shawver's Furman 1, sw ne se 24-29s-3w, sd 1400 ft.

STAFFORD COUNTY—Empire O & R Co's O'Conner 1, ne ne ne 17-24s-15w, td 4131 ft. D & A.

SUMNER COUNTY—Graham et al's Dawson 1, nw nw nw 4-33s-2w, dr 4255 ft. E. B. Shawver's Bryan 1, cw½ w½ sw 36-30s-2w, td 3830 ft, D & A. The Texas Co's Harper 1, ne sw se 9-30s-3w, rust 3827 ft. Faulkner et al's Nevitt 1, ne nw ne 36-32s-2e, P 3 bbls oil per hr & sw. Glimac Oil et al's Proud 1, sw se se 33-30s-1w, set 12-in csg 205 ft; woc.

WOODSON COUNTY—Harper et al's Miller 1, nw ne se 10-24s-14e, sd 1650 ft. Katz et al's Guy 1, sw sw se 6-24s-15e, dr 750 ft. Reed et al's Piper 1, nw nw se 19-23s-15e, td 1575 ft, P 35 bbls oil; comp.

OKLAHOMA

ALFALFA COUNTY—Olson Drlg. Co. et al's Acre 1, csw ne 14-24n-11w, rust.

ATOKA COUNTY—A. J. Sanders' Redden 3, se sw sw 19-1n-5e, td 1260 ft, sd.

BECKHAM COUNTY—Mid-American Oil Co.'s Biscoe 1-A, sw sw sw 28-8n-22w, dr 1650 ft. Carter Oil Co.'s Porter 1, csw sw 36-10n-25w, der, rur.

CADDO COUNTY—Clyde Beck et al's Pharris 1, cse se nw 24-6n-12w, der; tools on ground.

CLEVELAND COUNTY — Hollenback's Stinson 1, nw nw ne 17-9n-2w, dr 4580 ft.

COMANCHE COUNTY — C. V. Morris' Young 1, se ne se 24-3n-10w, dr 1000 ft. C. Holliday's Kuntz 1-A, cse ne se 21-4n-11w, sd 2338 ft.

CREEK COUNTY—Commercial Oil Co. et al's Hall 1 (was Sherry's Childers 1), sw sw ne 2-15n-7e, td 4020 ft, D&A. Mosier et al's Holcomb 1, se sw ne 19-18n-8e, dr on bailer 2935 ft.

GARFIELD COUNTY — Arab Oil Co.'s Harkendorf 1, ne ne ne 34-20n-3w, td 5925½ ft, taking dst. Ohio Oil Co.'s State 1, sw sw sw 13-23n-2w, dr 2860 ft.

GARVIN COUNTY — Hayes Drlg. Co.'s Howell 1, cse nw 34-1n-1e, dr 3445 ft.

GRADY COUNTY—Western White Lily Oil Co.'s Stover 1, cse sw nw 33-3n-7w, dr 3337 ft.

GREER COUNTY — Nelf-Godfrey-Andrea's Melton 1, cse nw se 16-3n-22w, rur.

HASKELL COUNTY — Continental Oil Co.'s Anderson 1, sw se ne 33-8n-20e, spd.

HUGHES COUNTY — Wrightsman's Diamond 1-A, se ne ne se 33-9n-9e, td 4280 ft, pb 3420 ft, 30,000,000 cf gas, rp 780 lbs, comp. Cap Rock Oil Co.'s Parks 1, csw se 34-7n-8e (owdd, otd 300 ft), dr 2490 ft.

JEFFERSON COUNTY—Buffalo Oil Co's Crown-Over 1, cse se nw 21-6s-6w, td 2811 ft, D & A. Gulf Oil Corp's Woodworth 1, cnw nw ne 20-3s-4w, dr 2340 ft. Olson, Heenan & Coe's Rose 1, csw sw 1-5s-5w, dr 1311 ft. Massad & Swansberger's Barrett 1, ne se se 14-6s-6w, sd 1800 ft. A. T. Campbell et al's Trout 2, cw½ w½ ne 6-8s-7w, woc 49 ft.

KAY COUNTY—G. A. Brown et al's Harris 1-A, sw sw ne 14-25n-1e, sd. Higdon et al's Nieman 1, ne nw ne 9-26n-3e, dr 250 ft.

KIOWA COUNTY—Kiowa Oil Corp's Finder 1, csw ne 4-6n-20w, sd. Argus Pet Co's Osbourne 1, nw nw ne 9-7n-16w, to run pipe.

LATIMER COUNTY—Clark Drlg Co et al's Wilson 1, cse se 15-5n-18e, td 4572 ft, sd.

LEFLORE COUNTY—McGraw et al's Tidwell 1, cnw 17-3n-22e, set 8-in csg 2913 ft, dr 3920 ft.

LINCOLN COUNTY — Anderson-Prichard Colon 1, nw se sw 28-17n-4e, Flow & S. I. Mid-Continent Pet Corp's Logan 1-A, ne ne se 31-11n-5e, td 4843 ft, rust.

LOGAN COUNTY—Anthony & Marshall's Fruin-Eckman 1, run A. to eat iron. Helmerich & Payne et al's Randall 1, sw sw nw 24-16n-1w, dr surf. 80 ft. Eason Oil Co's Sisters 1, sw sw sw 24-17n-1w, dr 3440 ft.

LOVE COUNTY—Sinclair Prairie's Stockton 1, se se sw 26-6s-2w, rur to fsg. Sadson-Wells-Pierson's Key 1, cse se nw 6-8s-1w, td 3360 ft, D & A. Amerada & Stanolind's Westheimer & Daube 1-A, sw se sw 27-6s-2e, td 7363 ft, pb 2790 ft, der out, hole open.

MARSHALL COUNTY—Stewart & Taylor's Chestnut 1, ne ne ne 23-8s-5e, recem. 5 3/16-in csg 777 ft.

MURRAY COUNTY—Russell's Fee 1, se nw se 9-2s-3e, sd 1681 ft. Power Oil Co et al's Lancaster Trust Co 1, csw ne 10-1s-2e, pb 3175 ft. sd. O. O. Owen's Fryer 1, ne se ne 34-1s-3e, dr 525 ft.

NOBLE COUNTY—Lincoln Oil Co et al's Neil 1-A, ne ne ne 15-23n-2w, dr 4400 ft. Summitt Drlg Co. et al's Dolezal 1, se se sw 8-22n-1w, rur. Magnolia Pet Co's Frosythe 1, se se sw 23-21n-2w, dr surf 50 ft.

OKFUSKEE COUNTY—Mid-Continent Pet Corp's Gofford 1, ne ne nw 35-12n-7e, cor 4368-4383 ft, sg. Oklahoma Oil Corp's Campbell 1, se se ne 8-10n-9e, rig.

OSAGE COUNTY—Norbla Oil Co's No. 1, ne ne se 13-23n-6e, rust. Bay Oil Corp's No. 1, nw nw nw 35-24n-7e, td 2830 ft, D & A.

PAYNE COUNTY—H. F. Young's Jenkins 1, se ne se 4-17n-3e, dr 4595 ft. Riddle's Van Zandt 1, nw nw se 16-18n-3e, rig.

PONTOTOC COUNTY—E. H. Moore's Muse 1, sw ne se 33-2n-7e, td 5253 ft, pb 4570 ft, flo 171 bbls oil 24 hrs, comp. Southern Oil Co's Young 1, ne ne se 17-3n-7e, C & P. Papoose Oil et al's Jones 1, nw se nw 2-4n-5e, rig. Delaney et al's Norris 1, nw nw se 18-4n-8e, mach, spd.

PUSHMATAHA COUNTY—Erle Halliburton et al's Bogwell 1, sw ne ne 30-3s-15e, td 1293 ft, sd.

SEMINOLE COUNTY—Sinclair Prairie's Rossanna 1, nw nw sw 28-10n-8e, td 4187 ft, swb 135 bbls oil 16 hrs. J. E. Hall et al's White 1, se nw se 30-6n-8e, co. Amerada & Stanolin's Reed 1, se sw se 19-10n-8e, dr 3451 ft. A. I. Spears' Keaton 1, nw nw nw 6-5n-8e, dr 1382 ft. Oklahoma Oil Corp's Gaines 1-A, ne sw sw 20-6n-7e, lcn abd. Helmerich & Payne & Hick's Lasley 1-B, ne nw se 25-10n-10e, td 3278 ft, flo 30 bbls oil & 500,000 cf gas daily.

STEPHENS COUNTY—Edward's Frederick 1, ne se nw 31-2n-8w, td 2754 ft, sd. Carter Oil et al's Harley 1, cne ne 24-2s-4w, testing 4677 ft. Wm. Angle et al's Posey 1, cnw nw 8-1n-8w, sd 5504 ft; contr depth. Helmerich & Payne's Graham 1, csw sw ne 12-1n-5w, td 5014 ft, sd. Ed Parson's Olson 1, csw sw 21-2n-8w, td 7002 ft, testing. B. F. Lundy's Calmes 1, cnw sw se 35-1n-4w, dr 3681 ft. Penn State Oil Co's Cole 1, cw½ sw ne 21-2n-8w, dr 3661 ft. Chas. Newsom's Pfile 1, sw sw sw 1-2s-7w, woc 175 ft. Wm. Angle et al's Sid Lang 1, sw sw ne 24-1n-7e, rur. G. L. Pace et al's Tah-su-dah 1, se nw sw 27-1s-9w, dr 250 ft.

TEXAS COUNTY—Cabot Carbon Co's Castro 1, cnw 19-3n-17ecm, pb. Missouri Valley Gas Corp's Fitzgerald 1, C Sec. 17-6n-14ecm, set 10 in csg 673 ft, dr 2257 ft. Cabot Carbon Co.'s Calvert 1, C sec 14-3n-16ecm, td 2540 ft, woc.

TILLMAN COUNTY—I.T.I.O. Co's Hatler 1, csw ne 32-2s-17w, testing. Magnolia Pet Co's Brown 1, csw se ne 21-3s-18w, dr 655 ft.

WASHITA COUNTY—McWhirter et al's Fee 1, sw sw sw 34-8n-19w, sd 1779 ft.

ABBREVIATIONS

The following abbreviations, signs, etc., are used in completions and wildcat reports in THE OIL WEEKLY.

*—*dry hole abandoned well.*
‡—*salt water (completions).*
†—*junked and abandoned.*
¶—*million feet of gas.*
abd—*abandoned.*
bbls—*barrels.*
br—*building rig.*
b.s.—*basic sediment.*
csg—*casing.*
co—*cleaning out.*
dd—*drilling deeper.*
dk—*derrick.*
dr—*drilling.*
fsg—*fishing.*
ft—*feet.*
hfw—*hole full of water.*
in—*inches.*
lcn—*location.*
m—*milling.*
mim—*moving in materials.*
mit—*moving in tools.*
mot—*milling on tools.*
n, s, e, w—*north, south, east, west.*
oih—*oil in hole.*
owdd—*old well drilling deeper.*
owpb—*old well plugging back.*
pb—*plugged back or plugging back.*
r—*reaming.*
rog—*rig on the ground.*
rur—*rigging up rotary tools.*
rust—*rigging up standard tools.*
sd—*shut down.*
sdtr—*sidetracking.*
sg—*show gas.*
si—*shut in.*
so—*show oil.*
so&g—*show oil and gas.*
spd—*spudding.*
sr—*straight reaming.*
sw—*salt water.*
td—*total depth.*
ur—*underreaming.*
wih—*water in the hole.*
wo—*workover.*
wocs—*waiting on cement to set.*
wosr—*waiting on standard rig.*

TEXAS GULF COAST

AUSTIN COUNTY—R. L. Hopkins & A. J. T. McGregor et al's Reinecke 1, se of Belleville, J. Stephenson sur, dr shale 1980 ft.

BRAZORIA COUNTY — Pure's Slade 1, Peach Point prospect, S. F. Austin sur, abstract 20, dr shale 7387 ft.

BRAZOS COUNTY — Francis Stone Oil Co.'s Graham 1, s of College Station, R. Stevenson sur, sd 2267 ft.

FT. BEND COUNTY—Research Oil Co.'s Moore 1, ne of Orchard, S. Kennedy sur, sd 3502 ft.

HARRIS COUNTY—H. J. De Arman's Tyrell & Garth 1, Cedar Bayou prospect, L. Hemingway sur, woc 1041 ft. Stanolind's Oates 1, Clinton area, C. Martinez sur, washing 8783 ft. Texas Gulf Prod. Co.'s Gillespie 1, Aldine area, S. Contreras sur, sd 7100 ft.

JEFFERSON COUNTY—Magnolia's Phelan 1, sw of Amelia in Cheek area, S. Stivers sur, dr sand no show 7081 ft.

MATAGORDA COUNTY — Continental's Robbins 2, Citrus Grove prospect, C. Franz sur, dr shale 10,460 ft; Continental's Hawkins 2, Sheppards Mott, D. McCarthy sur, ru. Sun's Craig 2, Hawkinsville area, J. Williams sur, woc 5689 ft. United North & South Development Co. (Receivers), Stoddard 1, sw of Buckeye, oCtton sur, dr shale 9683 ft.

POLK COUNTY—C. E. Gates' Jackson 1, se of Onalaska, E. Clark sur, dr shale 3880 ft. Mayo et al's C. Mayo 1, w of Segno, J. G. Loving sur, abn 5101 ft.

SAN JACINTO COUNTY—Cockburn et al's Whitten Estate 1, Keno area, Wm. West sur, lcn.

WALLER COUNTY—Red Bank Oil Co.'s Chapman 1, n of Hempstead, M. Donohoe sur, dr shale 1408 ft. Stanolind's Hargrove 1, Katy area, T. S. Reese sur, sec 110, dr shale 2940 ft.

SOUTH TEXAS

SAN ANTONIO DISTRICT

ATASCOSA COUNTY—Helvetia Oil Co.'s Susie Pratt 2, F. de la Garza sur, sd in sdtr hole 2424 ft, td 3460 ft. R. J. Roberts' and W. Earl Rowe's J. M. Elder 1, Dan Brister sur No. 190, still fshg, td 3160 ft.

CALDWELL COUNTY—J. R. Brinkley Jr. Oil Co.'s Mrs. A. C. Bridges 2, Solomon Seal sur, sd 2429 ft. W. F. Trammell 2, Robert H. Hunter sur, dr chalk 2068 ft. E. R. Cosby's W. H. Cosby 1, Maxwell sur, sd repairs 1800 ft. W. E. Housel et al's M. C. Driscoll 1, James Berry sur, prepare to re-dr 1544 ft. Kay Oil Co.'s N. L. Dunlap Est. 1, Solomon Seal sur, dr 2035 ft. McNeil Pet. Corp.'s Will Clark 1, J. R. Miller sur, lcn. H. F. Sackett & M. J. Keoughan's J. E. Cardwell 1, Jno. P. Bell sur, dry and abnd 1780 ft.

DIMMITT COUNTY—Porter & Connor's K. Tideman 1, S&GN RR sur, lcn abnd. Wilcox Oil & Gas Co.'s Light Ranch 1, I&GN sur No. 527, dr 4765 ft.

FRIO COUNTY — Amerada Petroleum Corp.'s Halff & Oppenheimer 1, W. F. Halsel sur, reinstated, ru to dd, td 6312 ft. Halff & Oppenheimer 8, San Antonio Ditch Co. sur No. 1104, dr sh and lime 9291 ft. Mrs. D. D. Harrigan 1, Salvador Flores sur, couldn't get to btm, dr in new hole 1080 ft, td of old hole 6290 ft. Elgin O. Kothmann 1, B. L. Crouch sur No. 90/9, cleaning to btm, to dd, td 5407 ft.

GONZALES COUNTY — Canoe Creek Oil Co.'s W. L. Bolts 1, W. A. Matthews sur,

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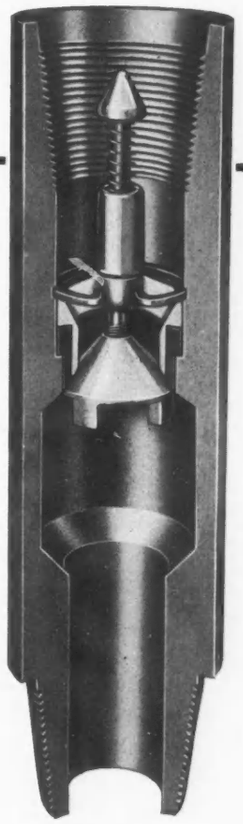

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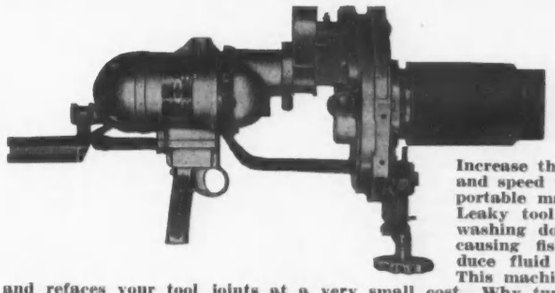

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Seismograph Surveys
618 Esperson Bldg.
Houston Texas

wor. Tull et al's J. F. Bozka 1, B. McClure sur, sd 2625 ft.

GUADALUPE COUNTY — J. Kenneth Blackmar et al's Cora & J. E. Mackey 1, James Hodges sur, dr 2125 ft. J. E. Clark's Paul Knodel 1, Green Dewitt sur, drk and mir. Louis Crough et al's Mary E. King 1, J. D. Clements sur, dr 1595 ft. Diamond Half Oil Co.'s E. Bibbs et al 1, ran electric formation tester, pb 1315 ft, set 7 in csg 1285 ft, woc oil sand in Navarro 1285-1315 ft, top schist 5447 ft, td 5510 ft. Felmont Oil Corp.'s Lizzie Schueneman 1, Green Dewitt sur, mim. Kennedy & Crowley's Gus Jahns 1, Jose K. Davis sur, still bailing, 75 ft oil in hole, td 2507 ft. Riddlle Oil Co.'s Ned Herff 1, Eligio Gotari sur, Edwards lime squeeze cement job failed to cut off water, now sd 2220 ft. V. G. Schimmel et al's Mrs. Wilhelmine Schneider 1, Jesus Cantu sur, mim.

HAYS COUNTY—R. D. Kelly's W. P. Donalson et al 1, J. Vermandi Grant, re-dr 890 ft.

MEDINA COUNTY—C. J. Webster O&G Co.'s Wm. H. Weimers 1, Joseph Haley sur No. 32, still waiting on water.

REAL COUNTY—Sun Oil Co.'s Dietert & Oppenheimer 1, GWT&PRR sur, dr 5750 ft.

TRAVIS COUNTY—R. M. Kyle's W. D. Hunter 1, J. Burleson sur, lcn.

ZAVALLA COUNTY—H. F. Wilcox's T. J. Gillam 1, GWT&T sur, dr 3265 ft.

LAREDO DISTRICT

DUVAL COUNTY—Argo Oil & John Clopton's Smith-Corkill 3, sur 498, D&A, ran electric formation tester, top Gov't Wells 2793 ft, td 2898 ft. Smith-Corkill Est. 4, sur 498, dr 1800 ft. A. J. Brinkoeter's P. Garza de Rodriguez 2, sur 212, dr 225 ft. Clark & Cowden Drlg. Co.'s J. M. Richardson 3, sur 5, dr 3595 ft. Frank Gravis' F. Vaello Puig 1, San Andres gr, comp for 440 bbls in 48 hrs, 5/32 in ch, tp 750 lbs, cp 850 lbs 43 gravity oil. H. F. Grimm's Elizabeth Mew 1, sur 289, D&A 5005 ft. Hiawatha Oil & Gas Co.'s Southland Life Insurance Co. 2, sec 15, Ball Ranch sub, coring sticky shale 5894 ft. Highland Oil Co.'s A. Faris 1, sec 9, Sweden subd, sp. Humble Oil & Ref. Co.'s Roos Brothers 1, ru prepare to sp. Penn-Palangana Oil Co. et al's C. K. Gravis 1, sec 250, in sec 254, pits wor. Reynolds & Richardson's D. Ruiz Est. 1, dr 2800 (?) ft. Smith & Storey's Smith 1, Santos Flores gr, lcn. Thomas Est. & Lockhart Bros.'s Lillian Parr 1, E. H. Valentine sur, flowing 5 bbls per hr 58 gravity oil 3/8 in ch, tp 1450 lbs, cp 1750 lbs, high gas/oil ratio. Trahan & Tuttle's J. C. Megerle 1, sur 245 dr (?). Geo. V. Viteri et al's Emilio E. Cadena 1, lot 6, J. M. Hinojosa gr, mim. W. H. Wollett and M. D. Masten's Bishop Cattle Co. 1, sur 74, lcn.

JIM HOGG COUNTY—Cole Pet. Co.'s Yeager Ranch 1, sur 452, sd about 2500 ft. Gifford Oil Co.'s & Locke Purnell's E. L. Armstrong 2, D&A 3690 ft.

McMULLEN COUNTY—H. K. Boysen's J. E. Murphy 1, J. E. Murphy sur, dr 1680 ft. Howell Oil Co.'s J. H. Martin Hrs. 1, sur 213, dr 905 ft. Edwin M. Jones' Harry Ezzell 3, Thos. Adams sur, closed well 1265 ft. J. T. Lanier's E. R. Hagist 1, sur 481, lcn. L. J. Snyder et al's B. C. Claunch 1, test on pump, show considerable oil and very little salt water, sanded up, prep to pull rods and re-work, td 1058 ft.

STARR COUNTY—John H. Clopton et al's Dionicio Tijerina 4, por 80J, of Camargo, dr 1600 ft. Cook's Maris' Arnold's Starr County Cattle Co. 2, Cook, Maris, Arnold sur, sd to lay water line, td 1595 ft. Danrey Oil Co.'s Cayetano Ramos 1, sur 150, abnd 1280 ft. W. F. Dolgener et al's Y. Garcia de Garcia 1, J. of Mier sur, dr with spudder 368 ft. Henry Mode et al's Kelsey Bass 1, por 87, blk 7, laying water line. K. E. Merren's Starr County Cattle Co. 1-A, Jefferies Lambeth subd, in por 89, dr 425 ft. Moss & Heard's S. B. Ricaby 2, J. of Camargo sur, gas sand 1597-1604 ft, sndy sh 1604-1605 ft, oil snd 1605-1609 ft, dst 1601½-1609 ft, recovered 60 ft oil and small amount salt water 15 min. dr ahead, td 1560 ft. F. P. Schwab and Fred Foster's Antioco Munoz et al 1, Javali gr, ru. Transwestern Oil Co. et al's T. B. Slick est 2, sec 527, dr 5355 ft.

WEBB COUNTY — Mills Bennett Prod. Co.'s M. D. Slator 2, J. V. Borrego gr, blk 89, pb 1483 ft, set 5½ in csg 1483 ft, perf in snd 1462-66 ft, bailing slight oil show, td 3020 ft. Bolling's & Coffey's A. Villareal 1, sur 768, dr 1100 ft. Eugene Garner, Jr.'s R. Saldivar 1, sur 657, abnd 1519 ft. Kepley Prod. Co.'s W. C. Billings 1, sur 6, dr 1900 ft. O. W. Killam's Laurell Bros. 1, sur 333, pump 150 bbls per day, td 2035 ft. LuTex Oil Co.'s Lone Star Con Co. 1-A, fshg 2875 ft. J. W. Magee's E. Garcia 1, J. V. Borrego gr, moving in rest of rig, td 40 ft. Standard of Texas & Locke Purnell's Rosa Benavides 1, sur 721, lcn.

ZAPATA COUNTY—W. C. Bob's J. M. Martinez 2, blk 22, W. R. Duke sub, sd 672 ft. Evans, Mim & Long Bros.' M. Garza Est. 1, Douglas sub, Zorro Ranch snd 1611-1620 ft, tested small amount oil, abnd, td 1785 ft. H. Q. Lewis' S. Benavides 1, blk 39, snd 1662-1665 ft, dry, drilling ahead, td 1670 ft. Lundell Prod. Corp.'s I. Ramirez 1, blk 25, dr 800 ft. Sylvan Price's Maryland Trust Estate 1-C, sur 314, dr 1625 ft. Westheimer & Daube's E. Lopez 1, sur 288, lcn.

CORPUS CHRISTI DISTRICT

ARANSAS COUNTY—Barnsdall Oil Co.'s Kate Edwards 1-A, Wm. Lewis sur, drill stem twisted off, fishing, td corrected 7548 ft. Wheelock & Collins' Wheeler 1, W. S. Tuton sur, abnd 7020 ft.

BEE COUNTY—D. D. Feldman's G. F. Shaw 1, sec 18, D&A, sw in Yegua, td 4315 ft. Lonnie Glasscock's J. B. Ablinger 1, John Ryan sur, killed gas well with 900 sacks, mud 12 lbs, 17 viscosity, td 5945 ft.

BROOKS COUNTY—Standard Oil Co. of Texas' Mestina Oil & Gas Co. 1, R. G. Salinas sur, dst 2407-22 ft, rec 135 ft sw 7½ min, cored ahead to rec 350 lbs pres, 10 min, still coring, td 2605 ft. Mestina Oil & Gas Co. 6, R. G. Salinas gr, set sur csg, woc, td 200 ft.

CALHOUN COUNTY—Hiawatha Oil & Gas Co.'s John Roemer 1, J. J. Ogsberry sur, recovered 5500 ft of drill stem and abnd, td 8470 ft.

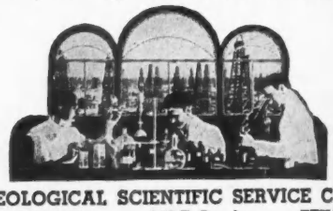
COLORADO COUNTY — Humble O&R Co.'s Relow Land Co. 1, Jos. L. Dubban sur, lcn.

CAMERON COUNTY—Saxet Prod. Co.'s & A. W. Phillips Port Isabel et al 1, Espiritu Santo gr, R. U. Stapper Petr. Corp.'s Port Isabel Irr. Co. 1, Espiritu Santo gr, dr 6930 ft.

GOLIAD COUNTY—Brown's & Wheeler's J. R. Kauffman 1-G, P. Trevino sur, dr 3119 ft. Goliad Oil Co.'s S. E. Cole 1, Goliad Town gr, dr 1830 ft.

HIDALGO COUNTY—Daskam Bros.' Osca Daskam 2, por 45, dr 2675 ft. Dayle L. Smith Oil Co.'s Fairbanks & Young 1, blk 14, por 46, sd 2350 ft. Union Sulphur Co. et al's Ameri-

GEOPHYSICAL SOIL SURVEYS FOR OIL
10 Sample Survey $50. Total Cost: Mid-West



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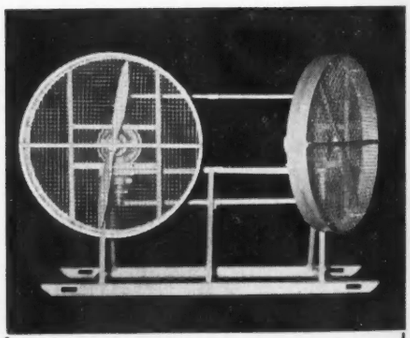

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can Rio Grande et al's 7, N. Capisallo dist, re-instate perf liner 7516-26 ft, 11 shots, comp small wet gasser, td 7608 ft.

LIVE OAK COUNTY—Empire Fuel & Standard Co. of Texas' George West 1, Geo. West sub, ru. R. H. Feltner's Sanger Ranch 1, sur 385, spudding. Loma Oil Co.'s L. C. Anderson 1, J. Turner sur, dr 1500 ft. F. D. Salter et al's J. W. Griffith 1, J. D. Osborne sur, snd 922-45 ft, 5 3/16-in csg 914 ft, comp 7 bbls per day on pump, td 949 ft. Sam Wilson, Jr.'s Southwestern Life Ins. Co. 1, sec 57, lcn.

NUECES COUNTY—I. J. Allen's & Seaboard Oil Co.'s J. O. Chapman et al 4, sec 38, dr 5135 ft. J. O. Chapman et al's 1-B, sec 37, dr 6820 ft. Camp Prod. Co.'s C. Phillip Wardner, Tr. 1, sec 12, set 5½ in csg and cemented at 6111 ft, probably to test a gasoline sand, gas and gasoline sands logged at 6104-08 ft, 5796-5806 ft,, 5618-27 ft, 5244-46 and 4706-16 ft, dr plugs, perf above, td 6715 ft. Clarkwood O'l Co.'s H. B. Baldwin 1, blk 11, coring 4460 ft. Lonnie Glasscock's Kansas Life Ins. Co. 1, Luc.ana Rivers sur, dr 3200 ft. Heyser & Heard's A. J. Kosar and Snyder 1, J. M. Cody sur, reaming 4537 ft. Shell Pet. Co.'s State of Texas 1, in Laguna Madre Bay, piling driven and sd. Sloan-Harvey & Green River Oil's Eno Cassens 1, Antonio Longoria gr, sp and sd. Southern Minerals Corp.'s Richard King 1, King Farm Lots, sd at contract depth, will deepen, td 6030 ft. Taylor Pet. Co.'s J. V. Styles 1, blk 14 of Rowsey subd, wor. United Prod. Corp.'s W. H. Harvey 1, Garcia sur, dr 8460 ft. Wellington Oil Co.'s & Seaboard Oil Corp.'s L. M. Duggar 1, Geo. H. Pauls subd, sec 125, coring 3695 ft.

REFUGIO COUNTY—United Prod. Co.'s J. J. O'Brien 12, Refugio field, sd 8357 ft. Co.'s T. A. McCamey 1, blk m, Pauls sub.

SAN PATRICIO COUNTY—Conroe Drlg. Co.'s T. A. McKamey 1, blk m, Pauls sub, D&A, td 6446 ft. Phillips Pet. Co.'s Henry Schmidt 1, sec 81, Pauls subd, made 3 bbls per hr 5/32 in ch, 34 gr, tp 1680 lbs, cp 1985 lbs, perf 5336-38 ft, td 7005 ft. Wheelocks & Collins' Inez Willis 1, blk E, Gregory subd, oil show, running drill stem test, no details, td 5300 ft.

VICTORIA COUNTY—Magnolia Pet. Co.'s Willie Beck 1, ru to co, td 4812 ft.

WILLACY COUNTY—Ruez-Morton, Inc.'s Francisco Armendiaz 1, Little Share 4, San Juan de Carricitos gr, drk. Shell Pet. Co.'s Yturria Land & C. Co. 1, share 64, San Juan de Carricitos gr, coring shale 9035 ft.

EAST TEXAS BORDER COUNTIES

CASS COUNTY—McAlester Fuel Co.'s J. J. Dooley 1, Calloway Davis sur, elev 247 ft, dr 4165 ft lime. Magnolia's Harper & Thatcher 1, Jacob Carsner sur, sd 6675 ft. United's J. W. Land 1, Robt. Potter sur, dr 6892 ft.

MARION COUNTY—Ark. La. Gas Co.'s W. S. Ford 1, Chas. Grayson sur, elev 332 ft, swabbing and flowing 53 bbls oil daily, old td 6351 ft. Laura McIntosh 1, Wm. Edmondson sur, elev 272 ft, dr 6387 ft. The Hunter Co.'s E. W. Fonda 1, A. de Los Santos Coy sur, dr 4584 ft. Ark. La. Gas Co.'s C. C. Braden 1, Thomas Hanson sur, rur.

PANOLA COUNTY—Danciger O&R Co.'s Tatum 1, Alfred Bissell sur, spd & sd. R. B. Dearing et al's Wooten Est. 1, Winny Mann sur dk & rur. Magnolia Pet. Co.'s E. A. Hull 2, Thos. Applewhite sur, elev 222 ft, tested 2200 ft sw in 13 minute drill stem test 4992-5003 ft, dr 5096 ft.

SHELBY COUNTY—Wm. Redditt et al's Pickering Lbr. Co. 1, Stephens English sur, arr deepen 2165 ft. H. A. Stebbinger et al's Pickering Lbr. Co. 2, A. Hanson sur, elev 205 ft, deepened to 5099 ft, claim so, sd for 5 3/16 in csg, td 5099 ft.

ALABAMA

CHOCTAW COUNTY—Joe Modisett et al's McCorvey 1, se sw sw 20-9n-2w, 16-in csg 200 ft.

GREENE COUNTY—Willis & Payne's R. C. Lett 2, se nw 6-21n-2e, dk.

HOUSTON COUNTY — Rice O&G Co.'s Oakley Est. 2, nw sw 9-3n-29e, elev 191 ft, top Tuscaloosa 3060 ft, arr deepen, td 4975 ft, Tuscaloosa.

MOBILE COUNTY—Grand Bayou O&G Co.'s J. A. Stafford 1, sw sw 24-7s-3w, lcn.

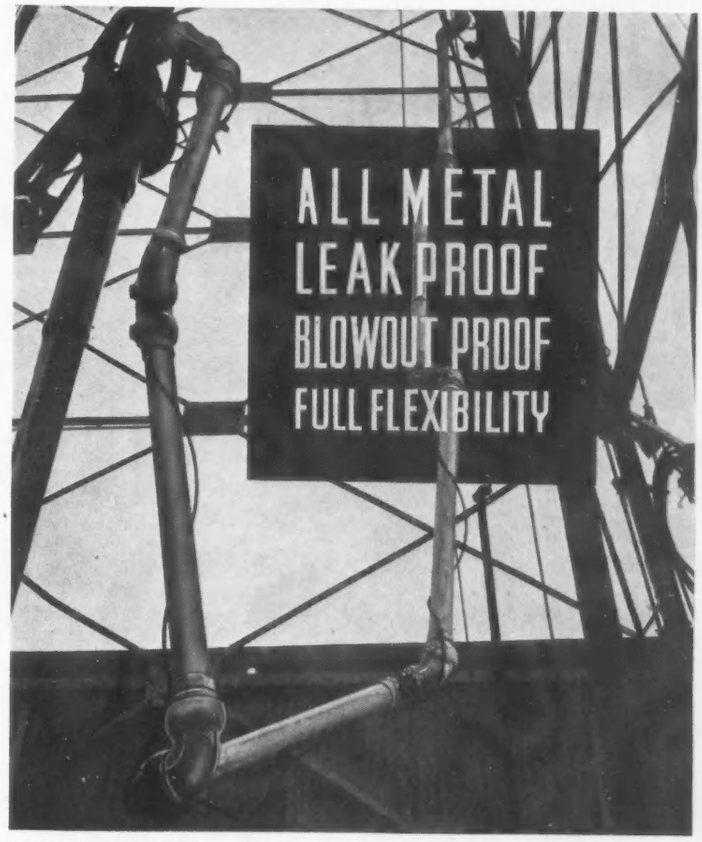
FLORIDA

LAKE COUNTY—Oil Dev. Co. of Fla.'s Gulf Expl. Co. 2, se se 17-24s-25e, elev 120 ft, massive anhydrite 2434-3066 ft, top Selma chalk 3454 ft, top Eutaw 5322 ft, top igneous rock 6102 ft, csg on ground, td 6118 ft.

LEVY COUNTY—Fla. Oil Discovery Co.'s Sholtz 1, sw ne 9-15s-13e, mim.

NASSAU COUNTY—St. Mary's River Oil Corp.'s Hilliard Turpentine Co. 1, nw nw se 19-4n-24e, elev 110 ft, fsg for bit, td 1408 ft, lime.

POLK COUNTY — Edw. A. Hill's Polk County Lbr. Co. 1, nw nw ne 32-25s-25e, dk.



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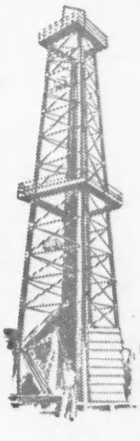

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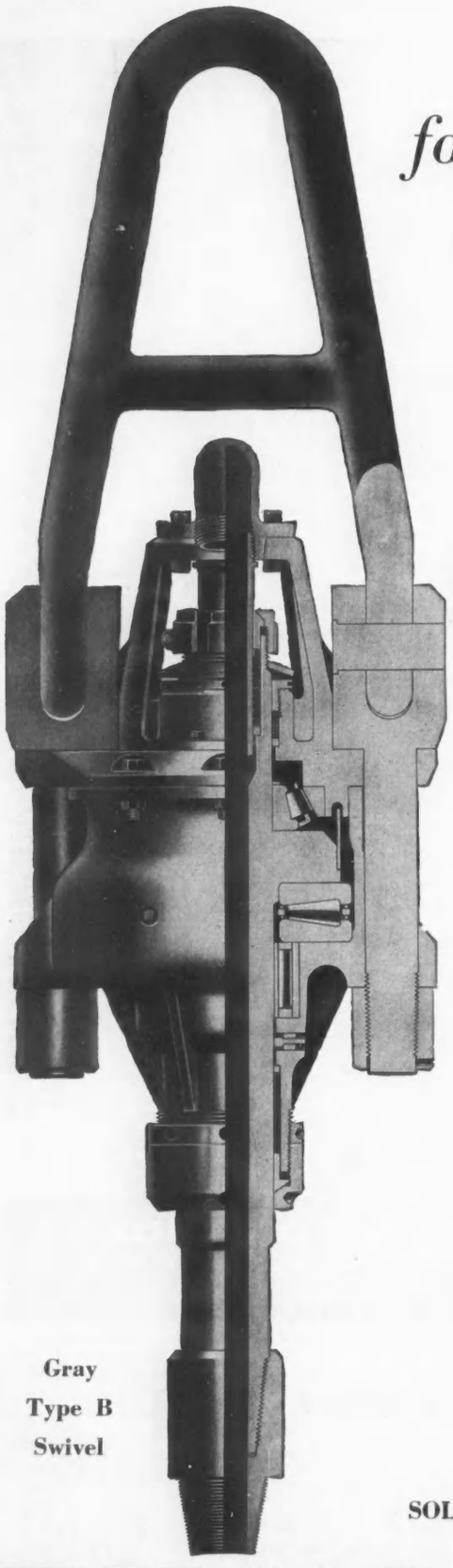

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NEW PRODUCTS FOR THE FIELD
Machinery • Tools • Catalogs • Books

UNION
Rockwood Sprinkler Company

Rockwood Sprinkler Company, Worcester, Mass., has introduced its new "Dualsteel" union, which has many applications in the petroleum industry. The manufacturer claims greater strength to withstand high working pressures and temperatures, severe expansion and contraction, and wrench abuse. Resistance to corrosion and erosion is claimed by the manufacturer. Another feature claimed is protection against flash fires caused by both seepage and leakage through its greater density of metal and tightness at the seat joint. For added protection against such fires, every union is air tested before it leaves the factory.

GLOVE
Pioneer Rubber Company

Pioneer Rubber Company, Willard, Ohio, has announced a new glove, specially designed to meet the requirements of the oil and gasoline worker. By coating the ordinary fabric gloves with "Thiokol," the new oil-proof synthetic rubber, the fabric glove becomes resistant to oil, grease, gasoline, and acids. Its wear resistance makes this glove ideal for workmen handling oil and gasoline, the manufacturer claims.

Another featured point of the new product is the ventilation. The porous "Thiokol" coating prevents hand sweating both in summer and winter, making this soft, pliable glove more desirable than the cover-all type. However, the gloves may be coated all over for particularly rigorous conditions.

20 TON RIGGERS' JACK
Templeton, Kenly & Company

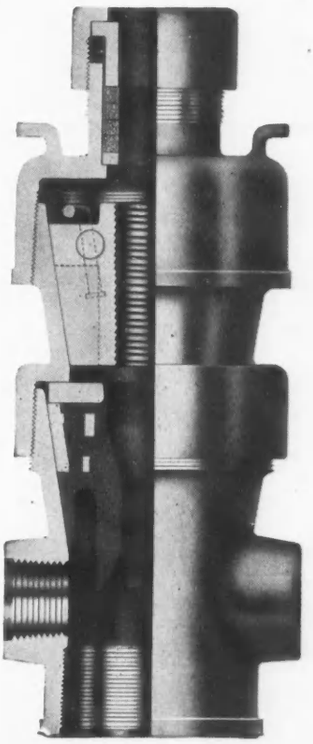
Templeton, Kenly & Company, Chicago, manufacturers of Simplex Jacks, has announced the addition of a 20-ton rigger's jack to its line of rig jacks. It is recommended for modern heavy oil country equipment and combines lightness with wide lifting range.

Simplex Riggers' Jack

STRIPPER TUBING HEADS
Beaumont Iron Works

Beaumont Iron Works Company, Beaumont, Texas, is offering several new types of Stripper Tubing Heads, which, according to the manufacturer, are designed to permit running and pulling tubing under pressure without the use of blowout preventer equipment.

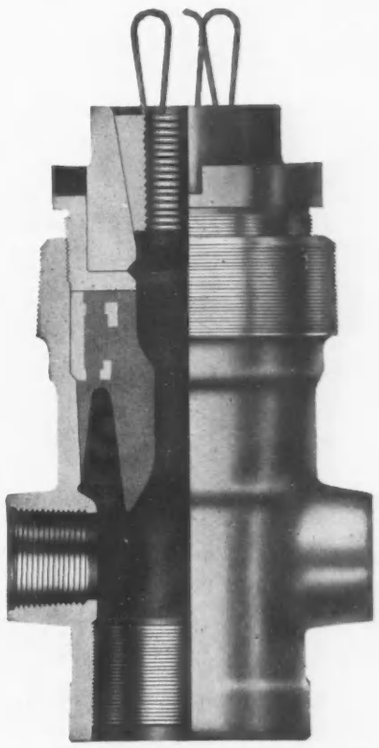
A one-piece rubber stripper, or pack-off, moulded around solid steel rings, fits in the tapered bowl of the tubing head body and effects a seal around the tubing. The rubber readily passes pipe collars, and being of a lipped design, tightens its seal around the pipe as well pressure increases. The rubber is under stress only to the extent of well pressure and while tubing is being run and pulled. The entire weight of the tubing string is transmitted to the tubing head body rather than to the rubber itself. According to the manufacturer, eliminating the weight of the tubing string on the rubber should materially prolong the life of the rubber.



"PX-23SB" Stripper Tubing Head

The accompanying sectional drawing of type "PX-23SB," 1000 pounds working pressure head shows how the stripper rubber is held down without the weight of the tubing. A regular stuffing box above the slips will seal in 1000 pounds well pressure in event the stripper rubber fails due to deterioration. This head is available without upper stuffing box, being designated as type "PX-23S."

Type "PX-65" also is designed for use where well pressure does not exceed 1000 pounds. It is available with an upper stuffing box, similar to that



"PX-65" Stripper Tubing Head

on type "PX-23SB," if desired. Type "PX-65" also is made for use on well pressures of 1500 pounds and 2000 pounds, being identical in design to the lower pressure heads except that it is provided with a split steel bushing which fits over and between the rubber and tubing to reinforce the rubber. This bushing is inserted in the head only after tubing has been run and must be removed before pulling tubing.

Type "PX-65" also is available as an adapter head, which is flanged at the bottom to fit the Beaumont Iron Works type "HX" high-pressure tubing heads. This adapter head is designed to hold well pressures up to 1000 pounds, and is recommended for use on the high-pressure heads for running tubing before the known high well pressure builds up.

PETROLEUM PRODUCTION

University of Oklahoma Press recently published an interesting book, "Petroleum Production," by Wilbur F. Cloud, associate professor of petroleum engineering at the University of Oklahoma. The book was written to serve as a treatise on petroleum production

methods and fundamentals. Chapters are given on legal phases of petroleum production; oil sands and production relations; oil field development; oil field power and prime movers; oil well completion; flowing oil wells; air-gas lift equipment and methods; surface equipment and methods for pumping wells; underground pumping equipment and pumping problems; cleaning and reconditioning oil wells; repressuring oil sands; gathering, gauging and shipping crude oil; preparing crude oil for the market; oil field water problems; the production of natural gas; and storage problems. The book may be had through the Book Department of The Gulf Publishing Company, 3301 Buffalo Drive, Houston, Texas. The price is $5.00 postpaid in the United States.

BOOK ON MUD

Mining and Geological Institute of India, 27 Chowringhee, Calcutta, announces availability of a 293-page book by P. Evans and A. Reid of Burmah Oil Company, Ltd., on "Drilling Mud: Its Manufacture and Testing." The book, which comprises Volume XXXII of the institute's transactions for December, 1936, is priced $5, including postage.

Evans, B.A., F.G.S., and Reid, M.A., B.Sc., have not only given the results of their own laboratory experiments in India on muds, but have also reviewed most of the important literature on mud printed up to the time of preparation of their manuscript. The book provides an example of the way in which apparently minor technical details of an industry may give rise to prolonged scientific investigations, and also an example of the application of quite academic inquiries to matters of industrial importance.

Some of the reviewer's observations follow:

"Whereas the smallest force applied to a true liquid in a long narrow tube will cause a slow flow, this is not so with drilling mud, which possesses a 'yield value' which must be overcome before flow takes place. The resistance to flow depends not only on this initial resistance but also on the 'mobility' of the mud, and consequently in place of a single number to represent viscosity it is necessary to employ the two expressions 'yield value' and 'mobility.' This type of flow is termed 'plastic flow,' and the subject receives detailed treatment in the paper. It is pointed out that because the majority of writers on mud-fluid have not appreciated the need for describing the flow of mud in terms of yield value and mobility, much published work is difficult to interpret."

The book then goes on to discuss viscometers used for measurements on mud fluids, and describes those employed in America, India, and elsewhere. An attempt is made to indicate lines on which it might be possible to relate the physical properties of the mud to the pressures needed in the pumps which force the mud through the circulating system of the well. As the mud has to travel at high velocities for perhaps two or three miles in a very restricted space, the pump pressures required may be extremely high.

The next subject discussed is thixotrophy, a phenomenon of fairly common occurrence but one which has not received the attention its importance deserves. Thixotropy refers to the property whereby certain muds will gradually set to a jelly-like mass, but will return to a mobile liquid if agitated, and again set to a jelly if allowed to remain undisturbed. The change from liquid to jelly and jelly to liquid may take place almost indefinitely. There has been considerable confusion in the literature between the variable viscosity shown in plastic flow and the changes in viscosity produced as a thixotropic mud sets to a jelly. Measurement of this important property of thixotropy is complicated, and control has not yet been satisfactorily achieved.

There are numerous illustrations in the text, emphasis being laid on the graphical presentation of experimental results. The references are drawn from a very wide range, and the detailed lists of contents and the full indexes make it easy to turn to any of the subjects dealt with.

SOUTH TEXAS MAP

Porter Regenold Map Company of Corpus Christi, Texas, has just completed a combination map covering Live Oak, Bee, parts of Goliad and Karnes, Refugio, Aransas, San Patricio, Nueces, Kleberg, Kenedy, Jim Wells, Duval, Brooks and McMullen counties. The map, which has a scale of one inch to 2½ miles, covers lease and fee ownerships as well as developments. It is 4½ feet wide by 6 feet long. This map covers the majority of the main developments now under way in South Texas.

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This Week with the Industry's EQUIPMENT SUPPLIERS

Wickwire Spencer Steel Company Appoints F. P. Clark to Buffalo

Wickwire Spencer Steel Company, New York City, announces the appointment of Franklin P. Clark as Buffalo district sales manager for all products, filling the vacancy left by Douglas Henecker who is now manager of wire rope sales at the general offices in New York.

FRANKLIN P. CLARK
Representing Wickwire Spencer Steel Company at Buffalo.

Clark graduated in 1923 from Sheffield Scientific School of Yale University in electrical engineering, and has been associated with Wickwire Spencer rope sales department at Buffalo for the past six years. Before becoming affiliated with the company represented the sales and engineering departments of Good Roads Machinery Company in New England from 1926 to 1931, having come to that company after being successively employed by United Electric Light & Power Company of New York, Stone and Webster of Boston and Wagner Electric Corporation of St. Louis.

Kobe, Inc., Expands Service to Mid-Continent and Gulf Coast

Kobe, Incorporated, Huntington Park, California, manufacturers of hydraulic pumps and screen casing have announced expansion of its service to the Mid-Continent and Gulf Coast. The company recently established a branch at Oklahoma City, and appointed a representative for Kobe pipe at Houston.

The newly appointed representative at Houston is Brown-Hovis, Inc., operator of an oil well supply sales and service business, having headquarters at 2214 Campbell Street. Complete stocks, sales, and service facilities for Kobe screen casing will be maintained by this company.

Since the organization of Brown-Hovis, Inc., in October, 1935, the firm has been very active and is well known among operators in the Gulf Coast area. W. S. Hovis, vice president and general sales manager, has been in the oil well supply business since 1919 and was sales manager of Halliburton Oil Well Cementing Company from 1929 until the formation of Brown-Hovis, Inc.

The branch at Oklahoma City is located at 3119 South Robinson Avenue, where complete stocks will be maintained, together with adequate sales and field service facilities.

C. M. Rader, division manager in charge of the Oklahoma City branch, is a civil engineer (University of Minnesota) who started his career in Wyoming oil fields. He has had many years of engineering experience, mostly in the oil industry. For the last 14 years he has held engineering and executive positions with firms serving the industry, and producing companies, his last connection of the latter type being with Phillips Petroleum Company for four years as district division engineer and assistant division superintendent of production of the Oklahoma division.

New Distributor for Stanley Electric Tool Division

The Stanley Electric Tool Division, Stanley Works, New Britain, Conn., announces appointment of Marshall Supply & Equipment Company of Tulsa, as distributors for its complete line of Stanley Electric Tools in addition to its stock of supplies, tools and equipment for the oil and industrial trade.

New Shop at New Iberia For American Iron & Machine

American Iron & Machine Company announces opening of a new shop and warehouse at New Iberia, Louisiana. The shop is equipped to make repairs for drilling operations, and is intended to give faster and more efficient service for drillers in Southern Louisiana, according to the company.

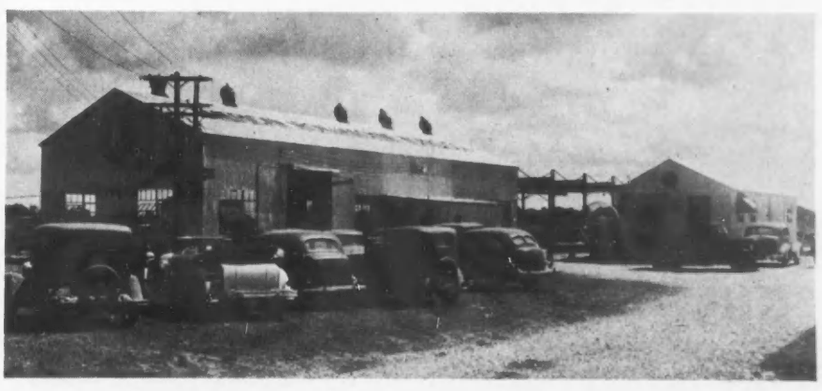
E. M. Smith Leaves for Extended European Trip

E. M. Smith, president and general manager of Emsco Derrick & Equipment Company, Los Angeles, and head of various other manufacturing organizations affiliated with the petroleum industry, will leave Lakehurst Field, New Jersey, May 6, on board the dirigible Hindenburg, on the first leg of an extensive tour and survey of Europe and the Near East.

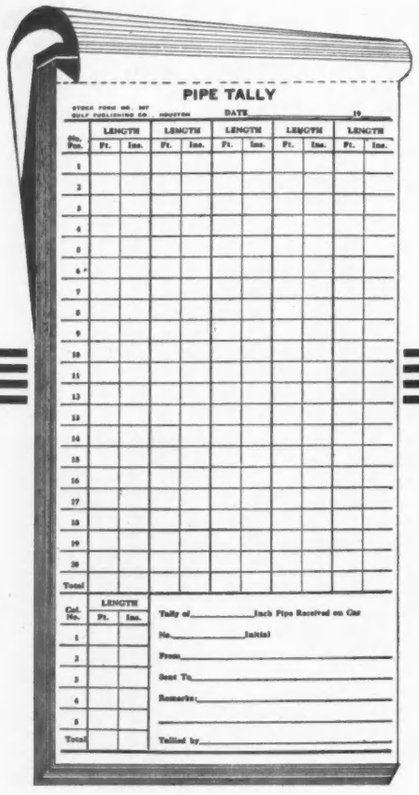
He will be met at Frankfort by D. A. Sutherland, general manager and R. M. Dinges, sales manager of Emsco Engineering Company, Ltd., of St. Albans, Herts, England, who will accompany him on the tour. They will inspect a

E. M. SMITH
Flying to Europe on tour to extend to the Near East.

number of the largest plants in Europe engaged in the manufacture of oil field equipment of various types. Later they will visit many of the important oil fields of Germany, Roumania, Persia and other countries, spending some time in the Bahrein fields of Persia. Before returning to England on the homeward journey, Smith will visit the Hague in Holland, and doubtless will attend the World Petroleum Conference in Paris in June. While in England considerable time will be spent at the



New Iberia Shop of American Iron & Machine Company



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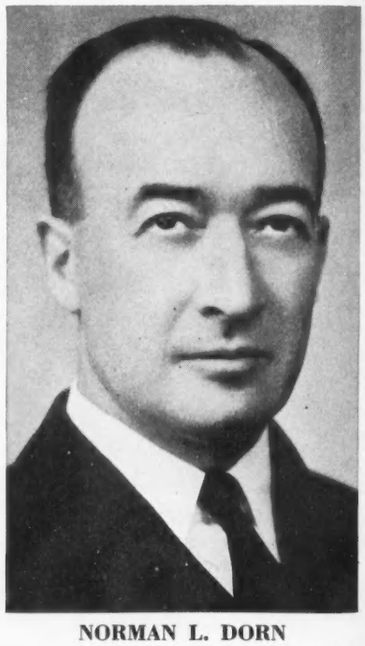
Emsco Engineering Company's plant at St. Albans, Herts.

The purpose of the trip is to get first-hand information relative to the oil fields, drilling and production methods in the various foreign countries as well as regarding foreign manufacturing procedure and oil well equipment produced in the countries tributary to those fields. His various interests export large quantities of their products to foreign oil fields and the forthcoming tour will develop important information and knowledge that will prove of value to them in serving both foreign and domestic oil companies.

Norman Dorn Appointed Manager Alexander Anderson, Inc.

The Lane-Wells Company, Los Angeles, announce appointment as of April 15 of Norman L. Dorn, as general manager of the Alexander Anderson, Inc., division of the company, with headquarters at Fullerton, California.



NORMAN L. DORN
Appointed manager of Alexander Anderson division of The Lane-Wells Company.

Dorn for the past 17 years has been connected with the drilling and production units of Shell Oil Company and for the last 2 years has been superintendent of the production department of that company's Long Beach division. In this capacity he has had direct supervision of the production operation of the fields in the Los Angeles basin, Signal Hill, Redondo, Torrance, Dominguez, Inglewood, Montebello, Santa Fe, Brea, Columbia and Huntington Beach.

Girten Supply Company Moves to Larger Quarters

Girten Supply Company, Houston, has moved to larger quarters at 906 Brooks Street, C. E. Girten, general manager, has announced. Larger stocks will be carried at the new location, and plans are being considered for remodeling the office space. Red Rex Corporation, of which Girten is president, has also moved to this location.

E. L. Decker on Extended Trip to South America

E. L. Decker of Martin-Decker Corporation, Long Beach, California, left Los Angeles April 13 on an extended air tour of the oil fields surrounding the Caribbean Sea. He will visit Mexico City and from there will make one stop at Guatemala, thence to the Canal Zone, from which point he intends to go inland through Colombia, back to Maracaibo and on to the new fields of eastern Venezuela from where he will take the air again at Barranquilla, flying to

Western Air Express Pilot Jack Thayer poses with E. L. Decker of Martin-Decker Corporation as the latter embarks for his air tour of the South American oil fields. Thayer is pointing to the Martin-Decker weight indicator, which was taken along on his trip.

Trinidad and then return to Los Angeles.

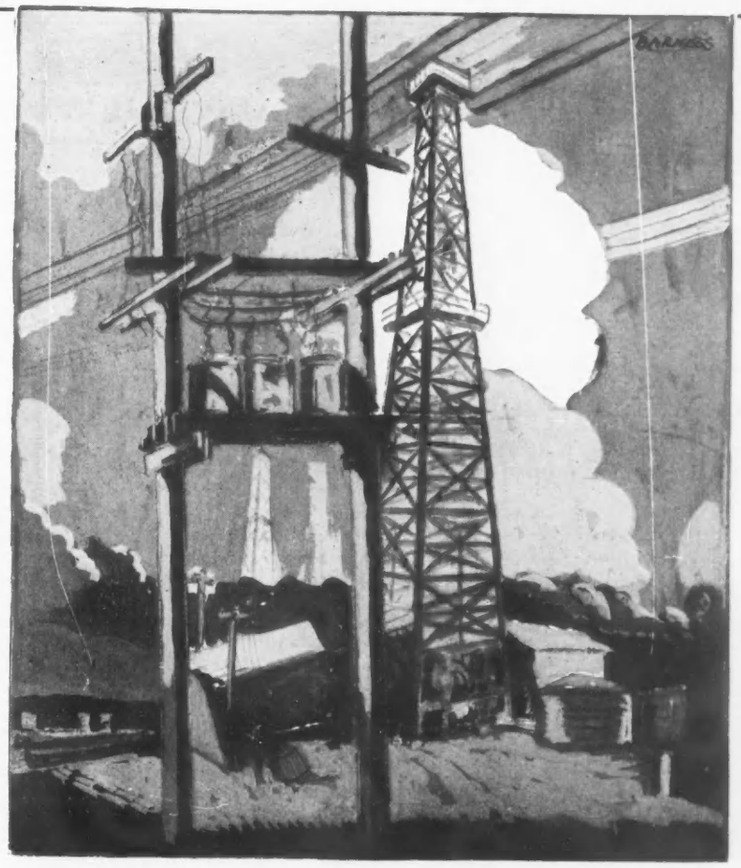
Upon Decker's return W. R. Martin will leave for an eastbound trip around the world on which he expects to visit all of the important oil producing areas except Soviet Russia. Martin's trip probably will take at least a year and one half.

American Brass Company of Texas Incorporated at Houston

American Brass Company of Texas, Houston, has recently been incorporated and will expand its distribution facilities with the opening of a mill depot at 6614 Harrisburg Boulevard, Houston, about May 1. The company will carry a stock of 250,000 pounds of brass, copper, sheet, rod, wire and tube products at this warehouse. The branch will supply Anaconda brass and copper products to distributors in the Southwestern States. American Brass Company of Texas is affiliated with Anaconda Mining Company.

New Offices & Larger Warehouse For Standard Oil Field Supply

Standard Oil Field Supply Company, Houston, has completely remodeled its offices and has expanded its warehouse facilities considerably. The offices, modernistic in design, have been enlarged and furnished with modern equipment, and soon will be air conditioned. The capacity of the warehouse has been more than doubled, and new pipe-threading machinery has been added. Complete lines of new pipe have been stocked.



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Squeaks from the Bull Wheel

Losing Money

At a meeting of his creditors the debtor was asked to make an offer.

"Well," he replied, "the best I can do is two shillings on the pound."

"Ridiculous," said the principal creditor.

"Well, then, half a crown," replied the debtor.

"Hopeless," was the reply.

"Now, listen," said the debtor. "I'll do my best to make it three shillings, but believe me, gentlemen, I shall lose money by it."

Something to Live Up To

"Whatever the outcome of the trial," said the defendant, "I am certain that this experience will make me a better man."

"In what way?" asked the judge.

"In striving to live up to the speech made by my attorney."

Mere Detail

"I was out west last summer."

"That so? Wasn't them hills—"

"The old bus averaged 350 miles a day."

"Wasn't them hills—"

"We only had two punctures."

"Wasn't them—"

"Did 18 miles to a gallon."

"Wasn't them—"

"And 200 miles to every quart of oil."

"Wasn't—"

"Didn't stop at one garage."

"Was—"

"Boy, it sure was a wonderful trip."

"Yes, but the scenery?"

"What scenery?"

Stale

Driving a new car, a lady halted at a station and was given a supply of gasoline and oil.

She then demanded that her car's tires should be let down and blown up again.

"It's six weeks since that air was put in; it's bound to be bad; I like fresh air in my tires."

Bad Smokes

The fellow had been handed a box of cigars as a reward for a favor. Meeting him a few days later, the donor asked how he had enjoyed the smokes.

"I smoked the first cigar and thought it was awful—until I found I had forgotten to remove the cellophane," stated the fellow. "Then I smoked the second cigar without the cellophane. That one was so bad that the third time I just smoked the cellophane."

Contributions

Pat, Sandy and Isaac planned a picnic, and it was arranged that each was to bring something. On the day of the outing Pat brought some ham, Isaac brought the bread, and Sandy brought his family.

Quintuplets and Then Some

"I'se just been bit by a dog, and I'se worried. I hear whenever a dog bites you, whatever the dog has, you get."

"Boy, then you have a right to worry."

"Why?"

"That dog just had 11 pups."

Anyhow, He Takes It

"You still take your morning bath, I suppose?"

"Never miss it. Sometimes I take it hot, sometimes cold, and when Im in a hurry I take it for granted."

His Intentions

"Maggie, I have been calling on ye for three years now."

"Aye, Jock," she answered.

"I have taken ye oot every Sunday, Maggie."

"Aye, Jock."

"I have taken ye to the pictures every Saturday, Maggie."

"Aye, Jock."

"And I have sat wi'ye every Thursday nicht."

"Aye, Jock."

"And I'm here the noo."

"Aye, Jock."

Then, in desperation: "Maggie, d'ye no' smell a rat?"

Musicians

"My uncle can play the piano by ear."

"That's nothing. My uncle fiddles with his whiskers."

Frankness

Do you believe in the survival of the fittest?

I don't believe in the survival of anything. I am an undertaker.

Tight Quarters

Teacher was taking her class of young pupils in astronomy. The moon was the subject.

"Now," she said, "some people believe that there are 50 million people on the moon." She paused as a titter of laughter reached her ears. "William," she snapped at one of the boys, "what are you laughing at?"

"I was just thinking, teacher, what a squeeze it must be up there when there's only a quarter moon."

An Urgent Appeal

The young lawyer placed his first witness on the stand. The judge promptly began to ask the witness questions.

The young attorney stood it as long as he could. Then he interrupted the judge.

"Your Honor," he said, "please believe that I am not trying to be disrespectful. But I have studied this matter for a month now, and I know I have a perfect case. I don't mind your trying to help me. But this is the only case I have in my office. So please, Judge, if you're going to try it for me, for heaven's sake don't lose it."

Banana vs. Sausage

A Japanese boy learning English is credited with the following thesis on the banana:

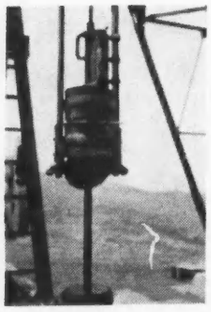
"The banana are great fruit. He are constructed in the same architectural style as sausage, different being skin of sausage are habitually consumed, while it is not advisable to eat wrappings of banana. The banana are held aloft while consuming, sausage are usually left in reclining position. Sausage depend for creation on human-being or stuffing machine, while banana are pristine product of honorable Mother Nature. In case of sausage both conclusions are attached to other sausage; banana on other hands, are attached one end to stem and opposite termination entirely loose. Finally banana are strictly of vegetable kingdom, while affiliation of sausage often undecided."

Pumping At 39 Strokes Per Minute With TECO Sucker Rod Shock Absorbers

(Patent No. 2,038,527)

Beginning of down-stroke, hanger dropping ahead of rods. Note space between grip and top shock absorber.

After rods overtake hanger near end of down-stroke, impact between grip and hanger-bar is cushioned by Teco Shock Absorbers, thus eliminating shock and vibration from the sucker rods.



Teco Rubber Shock Absorbers reduce the shock and vibration set up in sucker rods by pumping at high speeds during potential tests, and reduce loads, fatigue, and vibration when pumping at regular speeds.

Single and multiple types in four sizes for loads from 15,000 to 30,000 pounds. Tandem types in three sizes for loads from 30,000 to 50,000 pounds.

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Also TECO Safety Sucker-Rod Hangers and Accessories.

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